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**Fakulta metalurgie a materiálového inženýrství**

Katedra ekonomiky a managementu v metalurgii

## **DISERTAČNÍ PRÁCE**

**Srovnávací studie řízení lidských zdrojů v čínských a  
českých firmách  
(Pro posílení jejich potenciální spolupráce)**

**Comparative Study of HRM in Chinese and Czech Firms  
(To Enhance Their Potential Cooperation)**

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Obor studia: Řízení průmyslových systémů

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**Ostrava 2011**

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# **Srovnávací studie řízení lidských zdrojů v čínských a českých firmách**

## **(Pro posílení jejich potenciální spolupráce)**

### **Abstrakt:**

Od počátku devadesátých let procházejí Čína i Česká republika přechodem z centrálně na tržně řízenou ekonomiku.

Řízení lidských zdrojů již v té době začalo hrát velmi důležitou roli v rámci podnikových aktivit a jeho význam rostl i v následujícím období stabilizace a dalšího rozvoje tržní ekonomiky.

Dosud nebylo publikováno žádné vědecké srovnání přístupu k řízení lidských zdrojů těchto dvou zemí. Tato disertační práce se proto touto problematikou zabývá s cílem rozšířit znalosti o praktikách řízení lidských zdrojů v českých a čínských firmách a zpracovat je pro praktické využití obou skupin firem.

Proto má práce jak teoretický tak praktický přínos.

Pro dosažení uvedených cílů je v práci věnována velká pozornost sběru teoretických i praktických dat a jejich zpracování. Metodologie použitá v disertaci zahrnuje dotazování a průzkum mezi firmami a zpracování dat prostřednictvím skupiny vzájemně propojených statistických analýz, jako jsou popisná analýza, analýza rozptylu, hierarchická a K-means shluková analýza s grafickými výstupy.

Prostřednictvím analýzy krok-za-krokem jsou zjištěny rozdíly v praktikách čínských a českých firem a potenciální vztahy proměnných.



# **Comparative Study of HRM in Chinese and Czech Firms**

## **(To Enhance Their Potential Cooperation)**

### **Abstract:**

Since the early 1990s, both China and the Czech Republic embarked on the transition from central planned economy to market-based economy.

HRM had played a very important role in the economic transformation, and its role increased in the subsequent period, i.e. the period of stabilization and development of the market economy in both countries. However, the contemporary nature of human resource management in these societies is not well-documented, in particular, there is no research on the comparative HRM between Czech Republic and China. This study adopts comparative HRM approach to study the HRM practice in these two countries, which is expected to fill the blank in this academic research field on one hand, and to enrich the knowledge on HRM practices in Czech and China firms for practitioners on the other hand. Therefore this study is of both theoretical and practical value.

This thesis aims to compare the context of HRM in Czech Republic and China; to compare the specific practices in China and Czech firms and find out the major difference between them; to explain these differences based on the understanding how the multi-level contextual factors influence managing Human resource.

To achieve the goals as mentioned above, a large amount of work is devoted to data collection and data analysis. The methodology in this study is designed as a integrated system, which is composed of questionnaire, survey, data processing, a group of interrelated statistical analysis methods such as description analysis, variance analysis, hierarchical and K-means cluster analysis, and visualization process. Through step-by-step analysis, the difference of HRM practices between Czech and China firms and potential correlations between variables are found out. These findings will be studied furthermore within the context of HRM in the Czech Republic and China.

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## Introduction

Since the early 1990s, both China and the Czech Republic embarked on the transition from a planned economy into a market-based economy. A plethora of reforms, including the dismantling of quotas and fixed prices, the enactment of market-governing laws and regulations, and the privatization of state enterprises, were implemented. Similarly, these two countries have experienced a rapidly changing socio-cultural context, which was accelerated by the increasing foreign direct investment and growing multi-national corporations (MNCs) entry in local markets.

The admission of the Czech Republic into the European Union in 2004 has brought along many advantages and opportunities but on the other side, it brought along also many obligations and challenge. China has encountered the same situation when admitted to WTO in 2001, on one side, economy has been growing fast attributed to the increasing export, on the other side, local companies are facing dramatic changes and serious competition from MNCs and other foreign competitors.

During the transformation process, within organizations, human resource management is one of the most dramatically affected area as HR department is the accelerator of organization change, the Human Resource managers have to develop themselves, at first to meet the demands of new environment. Therefore change in HRM is essential in order to keep and motivate human resources which is vital for increasing competitive advantage of organization. However, while there has been a growing interest in the transition economies in the past number of years, the contemporary nature of human resource management in these societies is not well-documented. Especially, there is scant research on the comparative HRM between transformation economies in different region, such as the Czech Republic and China. Therefore, this paper attempts to provide the field with new knowledge.

The practical contribution of this thesis is to provide an understanding of HRM in transition economies specifically in Czech Republic and China. Both countries are underscored by a rising economic heterogeneity and a rapidly changing socio-cultural context, challenged by waves of restructuring, privatization, increasing foreign investment and an emerging individualism. In-depth study on the multi-level context of these two societies could help academics and practitioners to understand HRM practices more thoroughly in the context which the firms are embedded in. It is the mission of this comparative HRM study between China and Czech. Practical implications for implementing change of human resource management are provided. At the same time, this thesis has provided a great deal of information about the context of HRM in China and Czech, which is beneficial for strengthening the mutual understanding and multi-level cooperation between Czech Republic and China.

# **1 Aims and Structure of the Work**

## **1.1 Theoretical Background**

This general context of this subject is the globalisation environment. Analyses by the United Nations Conference on Trade and Development show a clear trend towards increasing globalisation driven primarily by an expansion of foreign direct investment (FDI) and an enlargement of international production in the world economy. [103] The trend of globalization as a process it is exerting an effect inside organizations. Among, HRM has encountered the most challenge when obviously more subject to the impact of multi-country, regional and global change and dynamism than in a single-country.[91]

Therefore, the topic of international HRM (IHRM), and particularly strategic international HRM has developed into a separate and crucial field of study in its own right. In general, the domain of International HRM examines the way in which international organizations manage their human resources across these different national contexts. However, it is not restricted to multi-national corporations (MNCs). There are three major approaches to address the complexities that internationalization adds to HRM, cross-cultural management, comparative human resource management and International human resource management, and the distinction between them is made by Boxall [8]. This present dissertation work belongs to the domain of comparative human resource management. Comparative HRM explores the extent to which HRM differs between different countries or regions, what the antecedents of these differences, and explore the importance of such factors as culture ownership structure, labour markets, union and role of state as aspects of this subject rather than as external influences upon it. [10] Comparative HRM has developed in the way of research HRM problems in a contextual perspective. Up to now, there is considerable evidence that there are different assumption (US and Europe), as well different practice and development of human resource management in different countries or regions. Take EU as an example, despite the common framework provided by the European Union and the influence of multinational corporations, the development of managers varies by country in European Union. [80][97] Within any one of these countries, there will be a diverse range of HRM models and practices in operations.

## **1.2 Aims of the Study**

The main aims of this thesis is to compare the HRM practice in China and Czech firms, to identify the difference and interpret in the societal, cultural and institutional context of both countries. In an effort to answer the question: to what degree context determines human resource management practices in the case of China and Czech Republic? This paper try to explain these differences based on the understanding of how the multi-level contextual factors influence managing Human resource. In the meantime, it is to examine the changes and trend of HRM in these two countries.

While in China and Czech Republic, there have been positive changes in human resource management in these years, and there is benchmark effect introduced by foreign companies and prevalence of MBA education and manager training provided by foreign consultancy companies. However, it seems that the transformation of HR functions will be a long-term process because there is too much inertia and too many obstacles. Only when we really understand these inertia and obstacles, in that how they are formed, how they influence management practice, could it possible to implement a change, otherwise, reform and change will stay on the agenda of manager for a long time. In this work, we will try to identify those factors which have impacts on HRM practices, suppose they also may influence on the change process, either as obstacle and inertia force, or as accelerator. That is why we must achieve the two major aims and then proceed to formulate recommendation and implication to both academic researchers and practitioners in the field of HRM in Czech Republic and China, which is expected to contribute for cooperation between Czech and Chinese companies.

### **1.3 The Value of the Comparative HRM Study Between Czech and China firms**

From the experience of Czech transformation, human resource, labour market and social security issues were considered as the most important aspects of the economic transformation. Consequently, HRM had a very important role in the economic transformation in the Czech Republic and its role increased in the subsequent period, i.e. the period of stabilization and development of the market economy.[\[60\]](#)

As well, in the case of China, since 1990s, HRM reforms was deepened systemically, and the country has highlighted the importance of HRM more and more, with the improvement of labour market development and carrying out of employment law, the level of HRM has increased a lot and playing a more important role in the growing of business and the economic transformation of region and country.

If the notion of 'European HRM ' was developed in reaction to the hegemony of US conceptions of HRM, further independent and systematic analyses into the HRM issues in CEE countries is now needed.[\[13\]](#)[\[88\]](#) This is especially important in light of

transitions experienced by many of the economies of CEE in the past decade. All areas of business management including HRM had to be newly defined according to market economy criteria during the transitional period.[35]

As aforementioned, it is necessary to conduct further research in transition economies. While accepting the importance of knowing the nature of HRM in these economies, a review of journal publications and books reveals that there has been very limited specialized and systematic research dedicated to HRM in the CEE countries. Although, there is growing interest in studying HRM in China, but most of these study compared China with US and other western countries in term of culture and value difference, other contextual factors are not taken into full account; or examine MNCs' operation in China settings. Nevertheless, there is little research within transition societies. Therefore it is of both theoretical and practical value to study on HRM issues in Czech Republic and China so as to enrich the knowledge in this area.

Since late 1980 and early 1990s, Czech Republic and China have undergone a fundamental transition from centrally planned to market economies. This transformation in economy together with other societal and cultural factors, has provided enterprises with very special external and internal conditions for HRM practices. Even within the CEE region, the relative size, importance and performance of the CEE state differs widely, which could impact the nature of HRM differently in single state.[82] In this sense, we may suppose that within transition economies, there is similarities and difference in HRM policies and practices.

Therefore, it will be interesting to find out the impact of transition economy on its firms' human resource management, and comparison will be a useful approach. Furthermore, the question of to what extent the US and western dominated theories and experience can be applied to the transition economies, as CEE and China deserve further research.

This study is expected to benefit the cooperation between Czech Republic and China. Since 1999, bilateral trade between Czech Republic and China has been improving. The data from 2006-2010 can represent the increasing trend of cooperation between Czech Republic and China [30], see Table 1-1. China has become the most important trade partner of Czech Republic in Non-Eu region. And Czech Republic is the most important partner of China in Central and Eastern Europe. Based on the successful foreign trade, great progress has achieved in higher level cooperation, including investment, joint ventures.

With the deepening of economic and technological cooperation between companies, it has demanded the comprehensive understanding of mutual environment and management practice so as to make cooperation more effective and successful. Thus, comparative HRM study between Czech and China can help managers to

acknowledge the difference and communicate more effectively with partner.

**Table1-1 The turnover of trade between the Czech Rep. and China**

Period	Code	Partner country	Stat. value EUR(th.s.)
2006	CN	China (Peoples Republic of)	4 847 082
2007	CN	China (Peoples Republic of)	7 217 095
2008	CN	China (Peoples Republic of)	9 049 053
2009	CN	China (Peoples Republic of)	8 173 294
2010	CN	China (Peoples Republic of)	698 288

The findings of this study has potential practical use for some organization, i.e. those companies which participated in our survey may care about the findings and want to know more about the difference and similarities between Czech and China companies. Chinese companies and Czech companies who has trade relations and plan to develop more cooperation, will be interested to know the context and characteristics of the other's management. In addition, relevant institutes which are responsible for accelerating the economy cooperation in Czech and China, such as association of Czech trade, industry and trade organization etc. and management research institute of both sides, may be interested to know the cultural difference and HRM practices in both countries, and to know if classical cultural model could explain the difference. Universities in Czech and China can take this empirical study as a case material for teaching HR.

## **1.4 The Methodology**

Using a survey method, we collected data from HR managers of Czech firms and China firms. A questionnaire was developed to assess the various components of a firm's HRM system. This survey aims to collect the information of HRM practices in major function areas from the companies in Czech Republic and China and to investigate the factors which may impact on HRM practices, such as ownership, size, industry and state. This survey was conducted from July 2009 to January 2010 among 110 Chinese firms and 60 Czech firms.

Considering the type of variables in this questionnaire, and the aims of this study, a series of statistical methods will be adopted in a systemic way. From basic description analysis, crosstab, variance analysis to higher level cluster analysis to investigate the data further and further. The software SPSS 13.0 is used in statistical analysis. Description analysis (frequency, cross-table analysis) of specific selection,



compensation and performance appraisal practices in firms allows for a clear picture of HRM difference and similarities between Czech and China companies. To examine in details these significant difference, we utilize variance analysis in an attempt to find out which factors might influence the difference on HRM practices, state, size, ownership and industry or both, and what potential relationship between these factors and related practices.

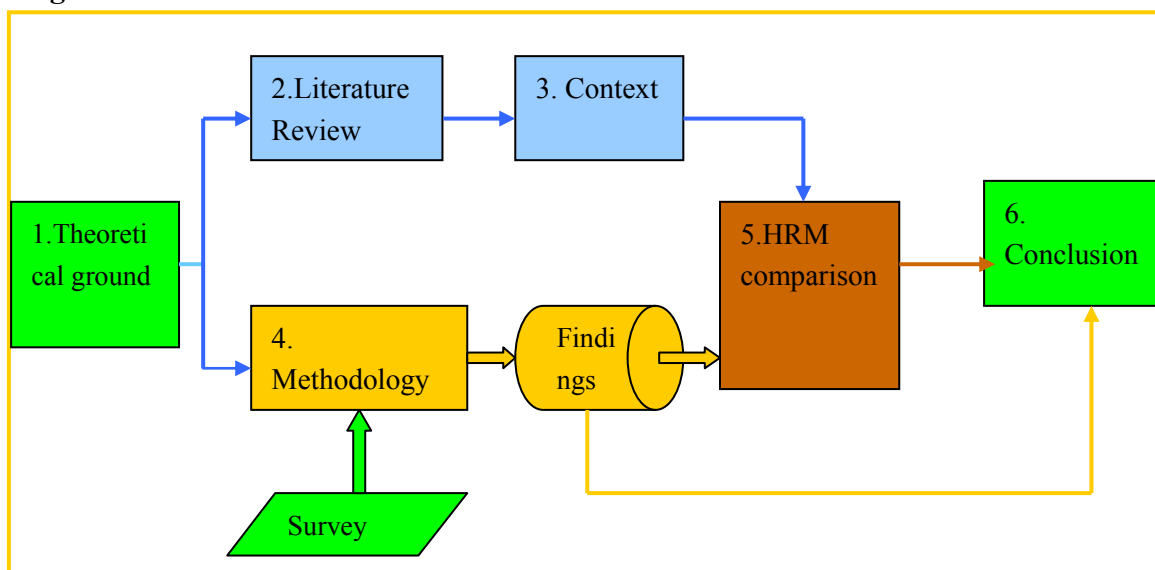
The Cluster analysis will be adopted. Cluster analysis is an exploratory data analysis tool which aims at sorting different objects into groups in a way that the degree of association between two objects is maximal if they belong to the same group and minimal otherwise. In this study, both Hierarchical cluster and K-means cluster analysis approach will be used. By use of Cluster analysis to examine if there is any pattern of management existing in a certain cluster and if there is any common feature of HRM in a given cluster. Dendrogram graphs is taken as an output of clusters, in addition, based on the final cluster means on a group of variables, figures will be made in Excel to visualize the cluster results in a clear view.

At last, a group of controlled experiments will be made on the variables of State-Size, a specific comparison between Czech-China small firms; Czech-China large firms; Czech small-large; China small-large will be made to deepen the analysis.

## 1.5 The Structure

This dissertation is composed of six interrelated sections as shown in the following figure.

**Figure 1-1 The structure of the dissertation**



The first chapter emphasizes the importance of HRM research in transition economies, HRM is expected to accelerate and support the transformation of organization in the

increasingly competitive and changing environment. The theoretical background of this research discipline and aims of this study was introduced. In chapter 2, the literature in the field of comparative HRM is reviewed thoroughly, including the assumption, mainstream approach, major achievements in this field. In addition, related research concerning the Czech Republic and China is overviewed. As there is no comparative research without acknowledging the context, the main contribution of comparative HRM lies in the reconsideration of the relationship between the HRM system and its context, in the third chapter, we describe and compare the context of HRM in China and the Czech Republic.

Methodology is highlighted in chapter 4, starting with the input of data from survey, the design of an integrated system of analysis and the detailed process of data processing and statistical analysis. The findings of each stage are also discussed. Chapter 5 focuses on the comparison of major HRM practices between Chinese and Czech firms, based on the findings from data analysis in chapter 4, as well, theories of comparative HRM and a range of contextual factors as culture, economy, ownership structure, labor market and legislation of employment etc from chapter 3 are applied here to explain the difference of HRM between two countries. In the last part of this study, we give a summary of the work which has been done and the major findings from the analysis and discussion, based on that, recommendations for Czech and China firms are provided. Then we point out the originality of this study, the testification of hypotheses, the limitation of this study and implication for further study. Since this study is exploratory research in the domain of comparative HRM concerning two transition countries, both the process and methodology has valuable implication for theory and practice in this area.

In brief, the last part withdraw the conclusion based on the research proceeding and findings from this study, in addition, suggestions for practitioners and implication for further comparative HRM study is put forward.

## 2 Literature Review

This part reviews the previous literatures in the field of Comparative HRM study, and puts forward the hypotheses to be tested in this study.

There are three major approaches to address the complexities that internationalization adds to HRM, cross-cultural management, comparative human resource management and International human resource management. This paper belongs to the domain of comparative human resource management. Comparative HRM has developed in the way of research HRM problems in a contextual perspective.

As regard to how to explain these differences identified between countries and regions, the major debate is between the cultural and the institutional perspectives, both perspectives are supported by their own theoretical and empirical study. Up to now, scholars of HRM do not yet have an authoritative complex model that can be applied to explaining country differences.[\[11\]](#)

In the broader areas, here refer to the field of international human resource management (IHRM), there are mainly two groups of problems occurred. **One group** refer to those problems occurred in human resource management practice in organizations (MNC) operating in a global context, such as global staffing, expatriate compensation, performance appraisal, global leadership transfer of knowledge and HRM practices from parent country to host countries, link HRM with performance and etc. In this group, more latest issues concerns management of diversity, development of HRs in the changing environment, and the HRM issues in Joint ventures and M&A, which fruequently happend in transition economies.

**The other group** refer to those problems on the research in comparative HRM. Which contextual factors are to be taken into account with regard to comparative HRM research? To what degree context determines human resource management practices? How to explain the diffrence of HRM between countries. as regard to the problem of transfer of HR practices, there is fundamental division between universalist and contextual HRM. On the issue of the trend of management and human resource management, there also existed significant debate, convergence versus divergence. The former believe that human resource management are becoming more alike between organisations and countries, the latter believe each country continure have its own approach. And IHRM research has often been accused of relying too heavily on a North American perspective. [\[12\]](#)

### 2.1 Literature Review on Theoretical Research

Comparative paradigm in the study of HRM is based on a few premise, many relevant

insights into organization process and systems in a global era will come from studying them in a comparative context. HR is the area of management most likely to subject to national differences,[85] Macro-level analysis which is used in comparative HRM is predicated on the understanding that operating across national boundaries brings with it a bewildering variety of cultural and institutional specificities that make managing in this context especially complex. Thus, macro level of analysis typically examine the influence of national origin, institutions and culture on the respective country's employment legislation, industrial relations, trade unions, ownership pattern and how specific company-related HRM practices are impacted by these macro conditions. Comparative HRM should attempt explanation, as well as description. Concerning how to explain the difference, major two approaches/perspectives has developed, cultural approach and institutional approach.

### **2.1.1 Cultural Approach**

Culture is the contextual variable most prominent in the relevant literature and often cited in (international) comparative research. With culture values as a main framework to explain identified HRM difference, based on assumption that culture is shared by individuals as a means of conferring and adding sense to social interactions with a persistent boundary.[49] Main contributions from scholars who have developed a variety of cultural models to examine and compare the core values of cultures across countries, and those scholars who further research on HRM practices and link with culture, cultural models are often cited.

Some influential models come from the study of Hofstede, Trompenaars, Kuckhohn and Strodbeck, Project GLOBE, Shalom Schwartz, Hall and Spony.

Scrutinizing the HRM literature we can observe the still prominent relevance of Hofstede's dimensions of national culture values. Despite controversies and limitation of this work, Hofstede's dimensions can simply be seen as a starting point for contextual comparative research.

Above is the review of research on culture, other scholars contribute to explain HRM difference with culture framework, establish the link between culture and a certain HRM functional practice.

**Relate HRM to Culture** Prior cross-cultural studies show that people from different cultural backgrounds tend to have different values leading to different behaviors. Budhwar identifies five ways such as socialization process, and management logic in which national culture finds expression in HRM policies and practices.[15] But how to link culture and HRM practices is still a difficult problem. Jackson has provided a theoretical framework to help capture such links between culture and HRM practices

by developing the concept of the 'locus of human value'.

Susan Schneider and Barsoux note the approach to HRM in the United states and Europe has evolved from different disciplines, which means the 'best and popular practice ' from US may not transferred into Europe and other countries which differ from US context.[80] Take example of China, though Chinese managers welcome the advent of particular USA HR practices in principle, found them difficult to implement in reality.

***In the area of Recruitment of selection***, it was found that particular selection methods are used more or less frequently in different societies in relation to the cultural values of that country, e.g. high uncertainty avoidance culture used more test types, more interviews.[28] Different cultures emphasize different attributes on selection of employee, people in achievement-oriented country consider skills, knowledge and talent, in ascription oriented culture, age, gender and personal relationship are important.[69] Similarly, in individualist societies a match between person and job description is very important. While in collectivist societies like China, nepotism is a natural outcome of the logic of interdependence, it is understandable that selection will depend on relationship.

***In the area of training and development***, Koen(2005) point that philosophy on training should be linked back to more general notions of desirable work relationship incorporating views on job classification.[58] Cultural difference are manifested in the ways people prefer to learn. In Chinese context, it is important to respect the trainer, and people prefer to learn in group, feedback esp. negative feedback should not be given in public. Schneider argues that culture dimension of uncertainty avoidance and individualist will affect the training objective. [80]

***In the area of Performance management***, evidence showed that performance appraisal is perceived differently across cultures. For instance, values should influence the development of criteria for job success, the methods used to measure employee performance and to provide employees with feedback. It was suggested that collectivist societies are more likely to use informal, subjective appraisal, the concept of performance appraisal sits uncomfortably with character assessment. Schneider provides several such examples. Stone-Romero and Stone found the influence of individualism/collectivism values on reactions to feedback as well the consequence of feedback. As observe Chinese organization, it is always hard to do with performance appraisal feedback as it is risky to make the appraised employee lose 'face'. Cultural variations in the area encompass both how people should appraised and by whom. [92]

***The area of compensation and reward*** is a 'turbulent area characterized by contextual complexity and tension. self-representation theory argues that culture

moderates the relation between motivational practices and individual behavior, predicts that individuals will evaluate pay levels and structures in terms of the degree to which they contribute to the fulfillment of self-derived motives [39]. Research shows that pay for performance systems are more likely to be implemented in individualistic countries (e.g., the Irish Republic, United Kingdom, United States), than in collectivistic countries (e.g., China, Japan, India). Schneider link compensation choices with culture values, e.g. preference for financial or no-financial compensation linked to masculine/feminine. It was argued that different forms of justice can be linked to cultural factors. In Chinese culture, a more fatalistic sense that events may be less than completely under humans' control casts the validity of expectancy theory into doubt. An empirical research in 19 countries has found that internal communication most related to culture while the least related is rewards and benefits. In Europe, it is unions and works councils who, through collective bargaining and joint regulation shaping pay arrangement. [104]

Even though cultural approach is the mainstream of comparative HRM study, there remains significant disparity among researchers as to the nature and extent of cultural differences explanatory variable for cross-national comparative research results.

### **2.1.2 Institutional Approach**

Until the early 1990s, international HRM researchers made few references to institutional theory. However, in their influential paper on organization theory and strategic HRM, Wright and McMahan discuss institutional theory and argue that: "the idea of institutionalization may help in understanding the determinants of HRM practices". [107] Since this was written, Institutional theory has been used in international HRM research mostly to examine the HRM practices found in foreign-owned subsidiaries of MNCs, also used in comparative studies of HRM practices across countries.

Nonetheless, Institutional theory is still underexploited in IHRM research, and that the application of this theory could significantly augment our understanding a range of important research questions.

Although theorists differ in their views of institutional theory, most scholars today share an interest in understanding the bases of stability of social forms and the meanings associated with them and point to the influence that socially constructed beliefs, rules and norms exert over organizations. A common point of departure for most new institutional research is thus that organizations are under pressure to adapt and be consistent with their institutional environment. They are assumed to search for legitimacy and recognition, which they do by adopting structures and practices defined as and or taken for granted as appropriate in their environment. Institutional

theory shares this emphasis on the exchange relationship with the environment with resource dependency theory and efforts have been made to integrate the two.[45] A central assumption in institutional theory is that organizations sharing the same environment who thus are members of the same organizational field are characterized by shared systems of meanings and tend to become 'isomorphic' with each other.

DiMaggio and Powell suggest that there are three major ways in which isomorphism is produced: coercive isomorphism, where a powerful constituency imposes certain patterns on the organization; mimetic isomorphism, where organizations in situations of uncertainty adopt the pattern exhibited by organizations in their environment that are viewed as successful; and normative isomorphism, where professional organizations such as university, consultancy firms and professional interest organization act as disseminators of appropriate organization patterns which are then adopted by organization under the influence of the professional organization. More recently, Scott has suggested that there exist three 'pillars' of institutional processes: regulatory, cultural-cognitive and normative processes.

One of the basic premises of international business research states that firms are embedded in country-specific institutional arrangements. [20] A country's institutional context, consists of relatively stable rules, social norms, and cognitive structures, sets the framework for market transactions by defining the "rules of the game" and specifying the conditions in which firms are legitimate.[83]

Hyman notes differences in the social context of industrial relations based on varieties of capitalism, which in turn will influence manager's employment strategies, policies and practices.[52] Similarly, Needle defines three broad model of capitalism: Anglo-Saxon, Social market/Rhineland model and Asian capitalism, and propose transitional economies can follow different paths both in terms of pace of change and in actual policies (he cites Poland and Hungary as contrasting examples). The importance of joint ventures to the transition of the Chinese economy has led to a tendency for China to follow Western models of capitalism rather than the Asian model with which it is much more closely related [75]. It was argued that internal and external factors are the key to understanding the changes and which determined the political and social structures that Czech trade union adopted.

Organizations in different societies but of a similar size and operating in equivalent markets and with the same technologies would in fact look remarkably uniform in terms of their structure and employment practices, supported by the contingency theories [113].

Anne Mills Predicts that influence of external stakeholders will shape a paradigm characterized by government intervention and an insider model of corporate governance in Czech. In addition, he differentiates between enduring and evolving

cultural influences on the development of this role[73]

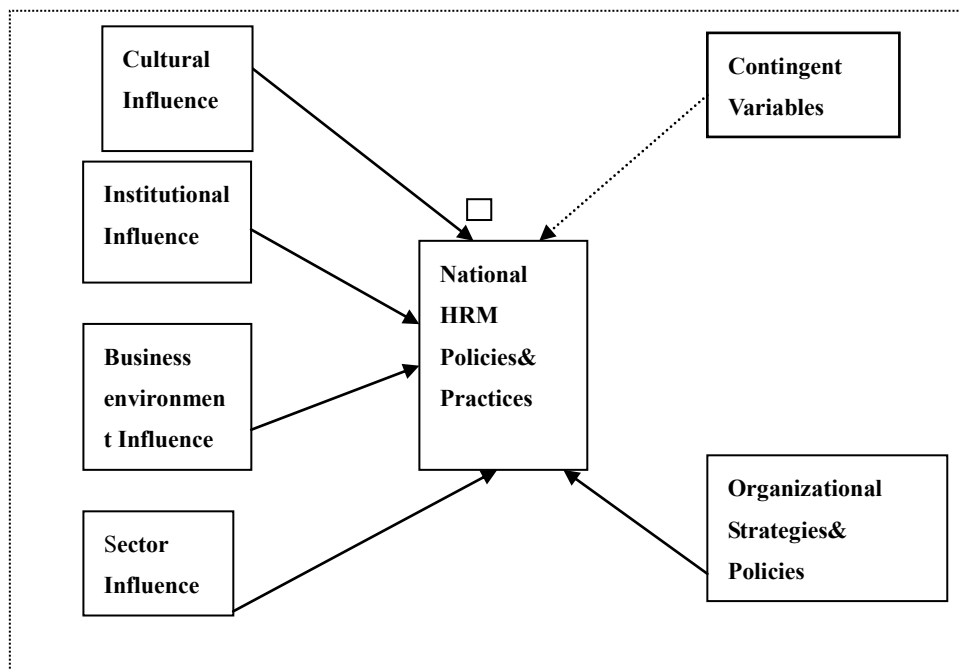
H1. Czech and China are both transition economies, but the way is different during transition. This may have reflection on their industrial relations and HRM practices in some degree, though not directly.

### 2.1.3 Combination Approach

Researchers have debated whether it is cultural or institutional factors, or both, that have the greatest influence on national HRM systems [89]. It was argued that these two approaches could be complementary rather than competing. Indeed, there are some scholars taking both cultural and institutional influence into consideration. It is argued that models of HRM need to adopt a multilevel view of the actors in the system and to see business strategy, HR strategy and HR practice located within an environment of national culture, national legislation, state involvement and trade union representation. Budhwar (2000) asserts that HRM practice is context-specific and is determined by both culture-free and culture-bound factors [18]. HRM practices are therefore likely to be influenced by both culture and institutional arrangements.

Budhwar and Debrah provided a comprehensive list of factors and variables, which are known to determine HRM policies and practices, see Figure 2-1. Another useful categorization for conducting comparative HRM research is the classification used by Pudelko. In the model, four layers of contextual factors were created, and each of these was subdivided into three categories, total 12 categories were included in the analysis. Other theorists have also argued for the need to cover both national differences and organizational contingencies, although they have used different terminologies: macro-economic; micro-economic; exogenous, endogenous; external, internal. [53].

Figure 2-1 Budhwar and Debrah's Contextual model [16]

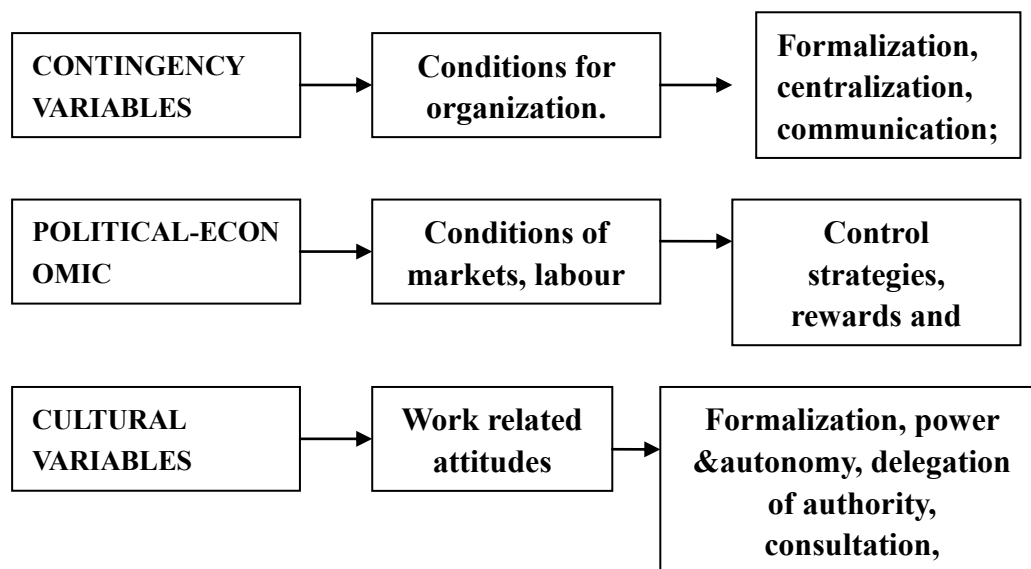




Tayeb proposed a causal model within work organization which indicates that contingency variables, political-economic variable and cultural variables has respective impact on organization behavior, and he believes that application of this model reveals a more holistic understanding of the differences in national cultures than ‘residual’ approaches. see Fig2-2. [94].

The Cranet network has played an outstanding role on comparative HRM over the last 20 years[14].It aided the field in enlightening and clarifying academics and practitioners how ‘context ’ makes.

**Figure 2-2 Tayeb’s Causal model**



Barbara Myloni, Anne and Harfiz, in an empirical study have indicated that certain cultural and institutional forces lead MNCs to adapt HRM practices to local norms, and in considerable degree on different HRM functional area. In an empirical study of Swedish work groups, Koen identifies societal factors as technology level, education system and workforces to account for autonomous work group instead of individual attitudes or culture values. However, manager’s own cultural preferences form part of the process of change in HR systems, a change must incorporate constraints of external institutions, in form of previous human resources policies, management values as shaped by norms in the society, legal constraints.

The interplay between contingent factors and cultural location and the level of choice available for managers in shaping strategies and into action is a matter of ongoing debate.

HRM change cannot leave its current background and previous practices, as any change is path dependent; it can only be understood in relation to the specific social

context within in which it occurs [4]. Integral to the change management strategy was the dual application of action research and workplace learning, natural companions in the process of modifying work attitudes and behavior.[43]

H2. The difference of HRM practices across countries could be explained by both cultural and institutional context.

## **2.2 Review on Comparative Study Related to China and the Czech Republic**

### **2.2.1 Comparative Study Related to China**

Over the last decade, scholars around the world have contributed to a significant increase in the body of knowledge related to the organizational and management practices of companies operating in China. HRM research has been focused on drawing lessons for HRM in the west and the application of western experience in the host environment, in particularly for MNCs. Hofstede's cultural study was often cited in comparison between China and other western countries as USA, European countries, some of research between China and countries in Asia, Japan, Singapore. General conclusion is that: difference of HRM practices between China and those countries, could be explained by the variance of national history background and cultural values (values, tradition, ideology, morals, belief and customs etc.). Confucius ethics is considered as a core value in China.

However the research on Chinese culture has shown more complex. While western scholars tend to adopt models and statistics methods to classify culture values into dimensions, local scholars prefer observation and description within the society. As a representative of western research, Hofstede and Bond's findings on Chinese culture was doubted if the five dimensions capture the complex of Chinese culture, i.g. long-term orientation seems not expressed in Chinese business practice. [38] Fan concentrated on intrinsic characteristics of Chinese culture and identified eight sub-categories with 71 core values of Chinese people. It has shown that comparison is not deemed necessary. Among, four sub-categories, harmony and group cohesiveness, 'face', 'guanxi', 'renqing' (favor) were high in line with what was observed by Lin yutang, who named "Face, Fate and Favor" as three Muses ruling over China. [65]. These finding are supported by more Chinese scholars as Liang laiming, Wang F.Yand Zheng H. , Chen as well other western scholars as Crookes and Thomas, Tang and Ward and Guirdham. In recent years, there is a strong interest to study Guanxi and its potential impact on the activities of business and management in China. In addition to Confucius thoughts, other philosophies in history also taken into account when examine mind-set underlies East Asian business principle and practice [77]. Simply to generalize, the most enduring, typical and important

characteristics of Chinese culture is 'face' (respect to maintain, to give, to exchange in societal life), 'favor'(suggests obligation or 'return' when benefited from other members) and 'guanxi'(interpersonal relationship and connections). In addition, it expresses high-context communication style and particularism dealing with situation and relationship.

In China, there are research of HRM focus on the institutional factors, such as industry, ownership and etc. For example, among comparative HRM study cross industries, it was found that industry contingent factors such as HR composition, skills, demand-supply situation, industry and product and history led to the difference.[112][108].HRM model related to the characteristics of enterprise. Traditional company adopt Control Model orientated to lower cost; Foreign company use Commitment model oriented to increase employee commitment; and private companies located in the middle of these two ends expressed with transformation and HRM has different emphasis upon development stage.[67][51].

H3. Business ownership could explain partially HRM difference among different firms.

While China has embarked upon a modernization policy, the socio-political and economic infrastructures are not self-supporting. Therefore culturally and environmentally, China, which is a unique blend of socialism and Confucianism, remains a true contrast to the US and other developed Western nations, i.e Chinese owners has shown a more autocratic leadership style with no team-building effort, much greater differences and less contact between senior management and workers, a greater sense of uncertainty and a distant and aloof management style. It must be noted here that Chinese organizations, which have been trying to adapt to market oriented economy, have been shifting away from old trends where they provided lifetime guarantees of employment, and a much wider security net. As well, the younger generation born in 1980s exhibiting greater individualism, which might be expected in view of changes within the society.

### **2.2.2 Comparative Study Related to the Czech Republic**

Among the ample research on cultural values of different countries, it is necessary to review those findings regarding to China and the Czech Republic. Thanks to the research of many cross-culture specialists, the national culture of China and Czech Republic was studied in different framework. In the model of Hofstede, the index score of Czech and China's culture is estimated, see Table3-1. It has shown that the culture of the Czech Republic and China are significantly different on the dimensions of UAI, IDV & LTO; a little different on PDI dimension; similar on dimension of MAS. The explanation of these indexes and its implication to management behavior and practices will be discussed in next chapter.

Then, according to Trompenaars' research, former Czechoslovakia is categorized in the Germanic cluster, and China in Asian cluster. Czechoslovakia and China are distinct obviously in four dimensions out of five. The result indicates there exists significant cultural difference between these two countries. In Shalom Schwartz's Extended model, Czech and China culture contrasted along all three dimensions. Czech culture represents a culture of high harmony, egalitarianism and middle embedded; while China is typical in hierarchy, mastery and affective autonomy. Czech, Slovak, and Poland are much closed to each other, but Hungary is a little bit more different from them. China is found to be a typical high-context society by E. Hall's research. In Spony's profiling model, Chinese value was characterized as hierarchical distance, social power and toughness, Czech values as efficiency, self-disciplined and directness. It could be concluded that the culture of Czech and China has significant differences.

H4: There is significant difference between the culture of Czech and China, it is expected that HRM practices in Czech would be quite different from China. But the degree of difference may vary in different functional area of HRM.

Kolman and others using Hofstede's culture model, identified the difference of culture between four Central Europe countries and Netherlands, and in-depth interpretation of the cultural difference was made in the history and societal context of each country. Thorpe and Pavlica using a discourse analysis technique and Hofstede's VSM questionnaire survey, found the difference between Czech managers and British managers and explain it in the context of culture and history. These findings of Czech culture were supported by Kolman, Thorpe, Kruzela and Chadebra in different research and showed consistency.

Karoliny et al. (2009) analyzed Hungarian and Central Eastern European characteristics of human resource management, based on Cranet survey, similarities and difference found between six CEE countries. [54]

There has been one full special issue on HRM in Central Europe, focused on a few countries. A more recent issue of Human Resource Management Journal presented a themed section on HRM in CEE countries with emphasis on comparative HRM and HRM in international corporations.

Research on HRM in CEE countries inevitably associated with the context of economic transition and phenomenal transformations in this region. [61][101] Transition consequences in related to HR issues are discussed. For instance, it was concluded that although labour market context in Eastern Europe have improved in Czech, Hungary and Russia, through the processes of privatization and economic restructuring, unemployment problems persist. [36]

Human resource development in this region appears delivered through private school education program together with training provision by Western countries. There have been profound changes with respect to the welfare services and with respect to labour relations.

Some research even segmented the capitalism in CEE into managerial capitalism, entrepreneurial capitalism and international capitalism, each of which represents respective pattern of employment relation. [68]

Comparison between CEE countries, such as Bulgaria and Czech was studied within the framework of comparative HRM. [62]

The enlargement of EU has initiated a cluster of studies examining the process of transfer of 'better practice' from western to Eastern Europe. Unsurprisingly these were most frequently examined in the case of East-west joint ventures. This situation is very similar to that of China.

It was observed that cultural change may be more rapid in particular societies, such as post-command economies. There are a few study review the changes in personnel/HRM practices within a post-command economy, suggest under-development in terms of strategic human resource management practices in Poland [96]. In a case study it was found that management strategies at Cesky Telecom exhibited some similarities with those of Western TelComs facing similar deregulation issues [78]. However, these processes were tempered by country-specific historical and institutional factors, including the relatively weak institutional structures and mechanisms found in Eastern Europe.

## **2.2 Further Study in This field**

From literatures, it could be seen that there is considerable evidence that there are different assumption (US and Europe) as well different practice and development of human resource management in different countries or regions. On the question of how to explain these differences, there are cultural and institutional perspectives, both has evidence and support but seems not sufficient.

In cultural perspective, by use of cultural models, core values of culture were found different across countries, and there are further research including empirical data support. However, there are also growing critic on these models (i.g .Hofsted's model) in respect of the methods, samples, and the effectiveness of dimensions in capture the complexity of culture. [70][1]. The "etic" approach and bipolar categories of culture dimension was questioned when examine Chinese culture. It seems that little doubt of culture has influence on HRM practice, but question focus on how to measure and generalize culture, or should culture be compared? Should culture be generalized?

How to examine the changing of national culture, need more research accumulate in long-run.

Empirical evidence proves that indeed there are links between culture or some dimensions of culture with HR practices in respective of recruitment & selection, training, performance appraisal, compensation and so on. However, it is limited to the statistical sample, whether the result could be used in other country, or in other samples still further empirical research.

Institutional approach has identified some major aspects which has shaped or impacted on organization management. Such as variety of capitalism, educational system, trade union, legislation of employment, ownership pattern, contingency variables of organization, etc. and supported by some empirical study to support. However, there is less research related to HRM. How institutional factors influence HR practices still need more investigation.

While we clearly stated the abundance of context-related interpretations, it is advisable to take in as much of the context as possible, and distinguish which are the most relevant dimensions of context in a specific study. Furthermore, it is difficult to deconstruct the various cultural and institutional influences upon managerial behavior.

[19]

### **3 The Context of HRM in China and Czech Republic**

#### **Why the context should be analyzed?**

Looking through the history of Human resource management, the growth of personnel management and later the development of Human resource management (HRM) have been influenced by a number of key contextual variables. These include the intervention of the state through an increasingly complex system of employment law, the workings of the labor market, the strength of trade unions, cultural influences, the state of the economy and changes in the competitive environment.

There is no comparative research without acknowledging the context. The main contribution of this approach lies in the reconsideration of the relationship between the HRM system and its context. While many of the other perspectives, at best, considered the context as a contingency variable, this approach proposes an explanation that exceeds the organizational level and integrates the HRM function in a macro-social framework with which it interacts.

#### **What contextual factors should be included?**

In search of an answer to the question to what degree context determines human resource management (HRM) practices, a holistic picture of contextual factors seems indispensable. As there is endless interpretation of the work contextual in the field of comparative research, as well there is a lot of model of contextual factors determining HRM policies and practices, i.e. the mainstream research of Budhwar & Debrah and Pudelko. [16]

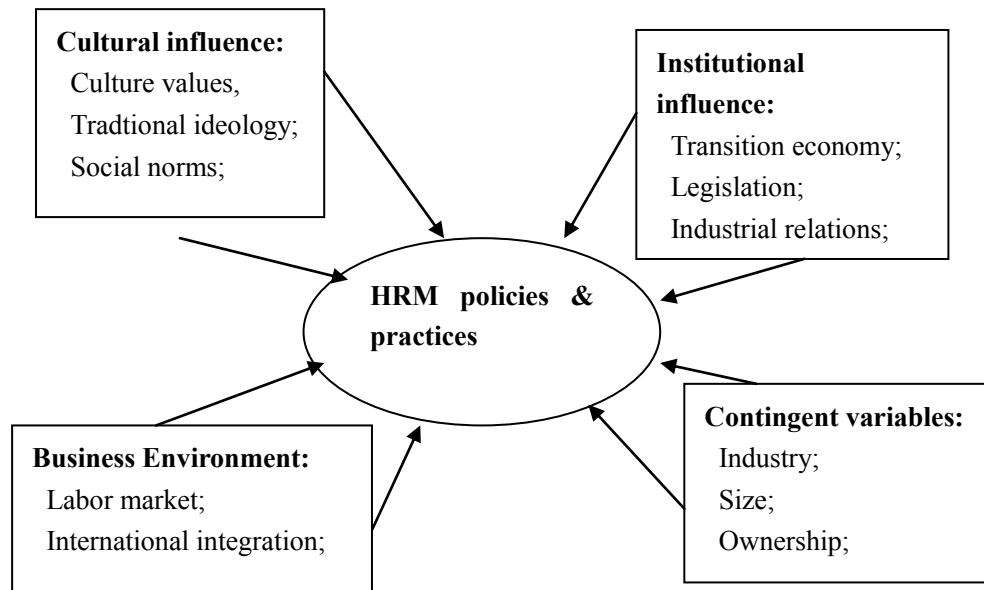
These approaches can be useful to other research, but it is impossible to expect to make similar aims in another context. Therefore, it is important to rethink and distinguish which are the most relevant dimensions of context in a specific comparative research.

The HRM practices normally used by employing organizations in a particular country are therefore likely to be influenced by both culture and institutional arrangements. So in our analysis, include both cultural and institutional factors, and we will not argue on which are more important. Because we believe that difference in approaches to HRM would most likely be the result of the interconnection between the culture and structure of a particular society.

Concerning this study in the context of Czech and China, it is more related to macro (societal) level, than micro (organizational) level. Thus, from the holistic contextual factors, we select more macro level factors as national culture, institutional factors, and business environment. In addition, some contingent variables as industry, size

and ownership of firms are included. Our emphasis lies in the examination of the macro conditions such as institutional influence, national cultural influence and business environment. The adapted model is illustrated as in Figure 3-1.

**Figure 3-1 Contextual model in Czech-China Comparative study**



### 3.1 Cultural Influence

Among the diverse and complicated contextual factors, culture is the most prominent and very often cited in comparative research. Through literature review, there is plenty of research evidence that different nationalities do have different values and that these affect the way people organize, conduct and manage work. HR is the area of management most likely to be subject to national difference.

As Laurent warned against universal view on management: “If we accept the view that HRM approaches are cultural artifacts reflecting the basic assumptions and values of the national culture in which organization embedded, international HRM becomes one of the most challenging corporate tasks in multinational organizations”[63]. The work of Hofstede and Trompenaars and other influential scholars clearly demonstrates that organizations are ‘culture-bound’ and that management are heavily influenced by collectively shared values and belief systems.

#### 3.1.1 National Culture Values of the Czech Republic and China

The last two decades witnessed the emergence of a stream of research showing the influence of national culture on HRM. The most prominent research comes from Hofstede, Trompenaars, Kuckhohn and Strodbeck, Project GLOBE, Shalom Schwartz Hall and Spony. From their research, we can describe and compare the



values of Czech and China culture in certain dimensions so as to identify the most consistent core values of Czech and China culture.

(1) According to Hofstede and Bond's research, the index score of Czech and China's culture is estimated as shown in table3.1.

**Table 3-1 The Index Score Estimates for Czech and China culture**

<b>Index</b>	<b>Czech</b>	<b>China</b>
<b>PDI</b>	<b>57 (Medium)</b>	<b>80 (High)</b>
<b>UAI</b>	<b>74 (High)</b>	<b>30 (Low)</b>
<b>IDV</b>	<b>58 (Medium)</b>	<b>20 (Low)</b>
<b>MAS</b>	<b>57 (Medium)</b>	<b>66 (High)</b>
<b>LTO</b>	<b>13 (Low)</b>	<b>118 (High)</b>

(PDI=power distance index; UAI=uncertainty avoidance index; IDV=individualism index; MAS=masculinity index; LTO=long-term orientation index) source: [49]

Ludek Kolman et al.[59], using Hofstede's model to compare between Czech, Poland, Slovakia and Hungary, has identified culture difference between these countries. From his research Czech culture's values index is similar to Hofstede's estimation, except on the dimension of MAS (**81:57**). Therefore we can trust the results.

According to these results, the culture of the Czech Republic and China are significantly different on the dimensions of **UAI, IDV & LTO**; a little different on **PDI** dimension; similar on dimension of **MAS**. If we follow Hofstede's index definition we can deduce some difference in terms of organization behavior related to work situation between Czech society and China.

**The index UAI** refers to the degree of intolerance of ambiguity and the extent to which they try to avoid uncertain situations. Czechs have a much stronger tendency to avoid ambiguity and uncertainties than Chinese. In respect of people's behavior at organization and work situation, Czech Managers may prefer using decision rules emphasizing short-run reactions to short-run feedback; they impose planning, standard procedure and industry tradition to cope with potential uncertainties in long-run. Organizations in Czech tend to use rules, technology to make sure outcomes as expected. It means managers are more concerned with structure and order and planning, they like to use technology, to use machine and tools to avoid subjective mistakes, in this sense, people usually respect and want to specialist and professionals. On the contrary, Chinese people have more ambitious to be managers or officials. Toward change, Chinese employees may have less resistance than Czechs. And Chinese employees are relationship oriented and feel lower work stress while Czech employee is more task-oriented and higher work stress.

**The dimension IDV** describes the relationship between the individual and the collectivity that prevails in a given society. Czech culture has higher rank than China, and Czech is also known for its tradition of democracy and individualism spirit. China is well-known for its collectivism values and philosophy in its thousands -year history. This striking contrast has implications for the applicability of management methods, for the work situation, for the relationship within organization. The degree of individualism or collectivism will strongly affect the nature of the relationship between a person and the organization he belongs to.

More collectivist society like China, call for greater emotional dependence of members on their organizations, individual tend to and is expected to adapt their views relatively easily to their group or environment. When cannot do this, the person will choose to leave rather than to change the views of others. Adaptation is regarded as a merit.

As regard to organizational values, the spirit of “united” and collective decision always be put on the top; management is objected to groups or units rather than to individuals. The relationship differs from in-group and out-group, and communication in China organization is typically high-context, which means the words and meanings and persons should be understood within its context. This is one of most tricky of Chinese culture for western people.

Individualism also affect some personnel management practice in organization, i.e. in China, generally, hiring and promotion take in-group and relationship into account; employee desires to have training and use of skills rather than challenge, and training at group level has best effect. Preferred reward allocation based on equality for in-group and feel ease. Direct performance appraisal esp. feedback in front to others must be avoided.

The typical collectivism value of Chinese culture has a rather strong impact on its management behavior and practices. However, there is definite sign of increasing individualism since 1990s, with the rapid development of market-economy, the infusion of culture from the world and the new generation growing in this decade.

The third different dimension between Czech and China is long-term orientation. LTO stands for the fostering of virtues oriented towards future rewards, in particular, perseverance and thrift. This dimension was found in a Chinese Value Survey developed by M. H. Bond in Hong Kong, which was later added into Hofstede’s system as the fifth dimension. It is no surprising that east- Asian countries has the highest score in this index, as the long/short –orientation based on the Confucius philosophy which dominates China through dynasties more than 2000 years. The difference could be found in ways of thinking of people, which may influence their behavior in organization though not directly. . In comparison, we could expect that Czech managers are less concerned with the future and value those things less that

might offer rewards in the future. As low LTO expected quick results and high LTO emphasize on persistence and perseverance. High LTO culture educated people to save money for future use, to cultivate relationship in long-run even if no return at the present; get used to synthetic thinking rather than analytic thinking. In Czech, employee see it is natural to separate family and business sphere, but in China quite often these two spheres connect in a network.

(2) According to Trompenaars' research, former Czechoslovakia is located in the Germanic cluster, and China in Asian cluster [100]. Trompenaars derived 5 relationship orientations that address the ways in which people deal with each other, together with the way people deal with time and environment.

It could be seen that except the relationship of Neutral vs Affective, Czechslovakia and China are distinct obviously in all other four dimensions. The culture of Czechslovakia focuses more on formal rules than relationships, business contracts are adhered to closely. People regarding themselves as individual, while China people regarding themselves as a part of a group. China is typical ascription culture, where status is attributed based on who a person is, Czech is relatively achievement culture, in which people are selected to a position based on how well they perform their functions.

**Table 3-2 The Relationship orientation of Czech and China culture**

<b>Relationship</b>	<b>Czech</b>	<b>China</b>
<b>Individualism</b>	<b>x</b>	
<b>Collectivism</b>		<b>x</b>
<b>Specific relationship</b>	<b>x</b>	
<b>Diffuse relationship</b>		<b>x</b>
<b>Universalism</b>	<b>x</b>	
<b>Particularism</b>		<b>x</b>
<b>Neutral</b>		
<b>Affective</b>	<b>x</b>	<b>x</b>
<b>Achievement</b>	<b>x</b>	
<b>Ascription</b>		<b>x</b>

(3) In Shalom Schwartz's extended model, Czech and China culture contrasted along all three dimensions. Czech represents a culture of high harmony, egalitarianism and middle embeddedness, while China is typical in hierarchy, mastery and affective autonomy. Czech, Slovak, and Poland are much closed to each other,

while Hungary is a little bit more different from them. China is found to be a typical high-context society by E. Hall's research. In Spony's profiling model, Chinese value was characterized as hierarchical distance, social power and toughness, Czech as efficiency, self-disciplined and directness.[10]

In addition, Hall's distinction of communication can be considered as an aspect of collectivism versus individualism: high-context communication fits the collectivist society, and low-context is typical for individualist cultures. It is true in the case of China (high-context) and the Czech Republic (low-context). Context means the information that surrounds an event; it is inextricably bound up with the meaning of the event. In a high-context society, the context of communication can be equally as important as the content.”[47].

It could be concluded that Czech and China has very different national culture in many aspects as shown in the findings of mainstream culture research.

#### (4) Other observations on the culture aspects of Czech and China

Besides, there are other observations and studies on the cultural aspects of the organization in Czech and China. Collectivism is the most frequently discussed topics. Collectivism was the official ideology of the communist party. The welfare of society was to come first on every occasion. In practice, this was not the case.

For example, Mueller and Clark (1998), conducted a study comparing business students in the US and those in Poland, Romania, Croatia, Slovenia, and the Czech Republic. They found that higher collectivist societies did not exhibit a general concern for others or the state. From the senior author's experience and research, collectivist societies are defined by a quid pro quo concern only for specific in-groups, generally devoid of benevolence or altruism, and based upon pragmatic consideration of reciprocal benefit.

Concerning China, encounter the similar contradiction. Following a study which included up to 398 respondents, hypothesized that senior managers in China might comprise a distinct group exhibiting characteristics given Chinese culture is regarded as typical collectivist. However, they concluded that there was no evidence of expected cultural norms, but rather that, in contrast, 'Senior Chinese managers exhibit no significant differences from their Anglo-Saxon counterparts in terms of collectivism or cooperation, and even manifest significantly lower in-group identity than Anglo-Saxons. Moreover, Chinese managers, in contrasting to what Hofstede's categorizations would lead us to expect, are associated negatively with collectivism and intra-firm co-operation. '

Perhaps, collectivism could be considered in a different way, considering the model of

Project GLOBE [50], which identified two types of collectivism, collectivism I emphasize on actual practice rather than preference of individual, specifically, the degree to which a society or work organization enables and encourages collective rewards and collective action.

Collectivism II refers to the extent to which an individual is bonded with, and is loyal to a sub-societal group- for example, a family or work organization. This index is high in China, which comply with the findings from Hofstede.

In the era of state controlled economy, managers constantly used political bargaining and personal contacts to promote their own agendas and strengthen their positions in the organizational hierarchy. However, one form of collectivism involved social responsibility for the welfare of the employees, which was a common concern among top managers. By granting secure jobs as well as other benefits such as health care and subsidized vacations to employee, managers tried to improve their own legitimacy in their employees' eyes. Because of their direct involvement with the Communist party, managers enjoyed low esteem among subordinates. Particularly in the Czech Republic and Hungary the status of key managers was a constant source of resentment and mistrust [87][98]. It has also been pointed out that because subordinates were rather dubious about the legitimacy of their manager's position, enterprise directors tended to use an autocratic style of management. Managers also avoided taking responsibility in order to escape becoming scapegoats for the ineffectiveness of the system.

On the other hand, historically, Czech Rep. Poland and Hungary all have their roots in the same individualistic traditions as Western Europe and USA, it is natural that the individualism has increased in Central eastern Europe after the collapse of Communism.[99][42] This phenomenon is supported by the more recent findings from the mainstream research on cultures across nations as mentioned above.

Another aspect of Chinese culture which has been highlighted in the analysis of China economic transactions is 'Guanxi'. It could be interpreted as the relationship that an individual maintains in social networks as well as social life. 'Guanxi' is commonly regarded as the 'operational code' for how best to get things done in China. This special culture factor has influence either on personal social life, and on organization behavior and on business area. We will discuss this fully when explain the HRM and organization behavior in Chinese companies. While most of present mainstream cross-cultural research stems from advanced western management background and assumption underlying, when applied to the new emerging market economies such as Central European countries and China, may face challenge. It is worth to testify the applicability of present theories through innovative empirical study in different context, that is one of originality in the present study.

### **3.1.2 Implications for Managing Human Resource**

Previous cross-cultural studies have proved that people from different cultural backgrounds tend to have different values leading to their behaviors within organization. This influences the preferences individuals have for specific HR policies and the extent to which these policies will actually function effectively. From various perspectives, researchers examined how to relate culture to human resource management practices in each HRM functional area.

Particular selection method and selection standard are used more or less frequently in different culture settings. i.e. high uncertainty avoidance culture use more test types and interviews on candidates; in achievement-oriented country skills, knowledge and performance are more emphasized, while ascription-oriented country, age, personal relationship are considered important.

Culture values affects the way of thinking and learning, which has influence on their training methods, i.e. learning individual or in group; the content of training, to be specialist or generalist and so on. Performance management is perceived differently across culture. the questions like "what is the objective of performance, who is appraiser, in which way to give feed-back may not have only one correct answers. For example, in China, it is risky to give the feedback of performance appraisal to employee in a formal and direct circumstance.

The area of compensation and rewards is a turbulent area characterized by contextual complexity and tension. The effect of motivation depends on the employee's thinking and values rather than the absolute rewards they got. The structure of compensation, the factor determining the level of pay, the method of motivation is influenced more or less by culture values. i.e, Preference for financial or non-financial compensation, pay on performance or not has relations with the values in terms of masculine/feminine, individualism/collectivism. In China, non-financial benefits are no less important than salary, particularly in State-owned enterprises.

However, it is dangerous to over-generalize culture considering its complex, dynamic nature. Both Czech and China is still undergoing transformation, traditional culture is inevitably affected and may adjust more or less.

As well, it is dangerous to stereotype and over-state the role of culture. It is noted that cultural factors must be interacted with other contextual variable, as legislation, economic and other institutional settings.

## **3.2 Institutional Influence**

Most scholars today share an interest in understanding the bases of stability of social forms and the meanings associated with them and point to the influence that socially constructed beliefs, rules and norms exert over organizations. A common point of departure for most new institutional research is thus that organizations are under pressure to adapt and be consistent with their institutional environment. Furthermore, institutionalists argue that national factors such economics, governance, financial and legal systems and trade union, which together form the national business system, are the source of the main differences in HRM between nations[48][106].

It is advisable to take in as much of the factors as possible, however, it is impossible to include all in one study, and it is also important to choose the most relevant context factors according to the aim the study and characteristics of the two countries being compared. Thus we select institutional factors as transition economy, employment legislation and industrial relations and trade union to take into account and examine their potential influence on the practice of managing human resource in Czech and China.

### **3.2.1 Transition Economy**

Economy environment is one of the most important factor to be analyzed when study the organization within. It is of particular significance when the economy environment and society is changing drastically. This is the case of Czech and China. These countries underwent a fundamental transition from centrally planned to market economies in the late 1980s and early 1990, actually the transformation is still going ahead, which, in combination with several other macro factors, has provided firms with very specific external and internal conditions for HRM practices. As HRM originates from US and Western Europe, to what extent these HRM theories and “best practices” can be applied to the transition countries and whether there is particular approach to HRM in these countries is a question of hot debate. As it has proved by many empirical study that western HRM practices has constraints when put into action in non-western countries on account of culture and other individual differences.[10][49] In China, how to adapt western HRM theories and practice into local settings, even how to establish “Chinese HRM” has been discussed by both academics and practitioners in recent years.

However, even within CEE countries, the relative size, importance and performance of the CEE states differs widely [82], which could impact the nature of HRM differently in single state. So we can suppose Czech and China also has distinct HRM system and operations, despite that fact that they are both transition economies, they have similar personnel management system during the central planned regime.

The path of transition may differ between Czech and China. The Czech Republic has

undertaken a fast-paced voucher privatization, has achieved the most success in transition, the reform measure by and large brought about a market-based restructuring of the economy without a prolonged economic downturn in comparison with other transition economies. China has chosen the model of “Gradualism”, as we say “cross river by groping the stones”. Chinese gradual reform undertook the approach from top to down, from outside of the system to inside; from market formation to privatization, which is suitable to China reality and situation, and have saved the costs of institutional enforcement.<sup>[110]</sup> Take a retrospect of China reform, it could be divided into several periods, from exploration period (1978-1984), out-break period (1984-1992), the period of switch to market economy (1992-2003) and period of deepening reform (2003-)<sup>[111]</sup>.

In comparison to other transition economies, China has more strict limitation to foreign investment at the beginning for economy reform, in order to let the private economy and mixed economy (state owned and private economy mix) expand naturally, maintain most of the fixed assets at the hand of national people.<sup>[55]</sup> As a result, there emerged some special forms of ownership, as township enterprises, collective-owned enterprises, which co-exist with state-owned enterprises, private enterprises and foreign-invest enterprises. As non-state ownership, the private enterprises and foreign-invested enterprises has gradually developed and were accelerated since WTO accession, in line with the gradualism policy of reform in China.

The complex structure of ownership is one of the distinct characteristics during China’s reform, and it was regarded as a selection well accommodated to China’s realities. The multi-ownership structure in national economy also has reflection in the HRM system in China. Empirical evidence showed a relative close relation between modes of HRM and ownership of firms in China.<sup>[112][105][115]</sup> In combination with other factors like trade union, labor market, which will be discussed in the following part, it could be seen that the issue of HRM is more complex within China in its diversity between ownership, region, industry, and rural/urban. It is one of the most difficult issue when study HRM in China as a whole. Therefore, more empirical research is needed to enrich the pool of information and to make a holistic picture of the art and state of HRM in China.

### **3.2.2 Employment Legislation**

The state, operating through government policies and the legal system, has had considerable influence on the HR function in three major areas: employment legislation, manpower policies concerned with the supply of labour and education/training, and third-party intervention. We will compare the employment legislation between Czech Republic and China, highlighting the role of national Labor



law. It influence HRM practices through the level of organizational autonomy that they imply, the breadth of policies affected regulation and the time span through which codification has taken place. We can distinguish three aspects to this concept of human resource management:

- the degree of employment protection
- the legislative requirements on pay and hours of work
- legislations on forms of employment contract.

Both Czech Republic and China has launched new Labour Law to meet the requirements of new business environment, and the new law has caused many changes in the area of labor-law relations.

In Czech Republic: the new Czech labor Code came into force at the beginning of 2007. Act No. 262/2006 Coll., the Labor Code replaces the previous Code which governed labor-law relations for over 40 years. Provisions of the Labor Code address all labor-law relations that exist between the employer and employee in the private sphere. The new legislation is characterized by a higher degree of contractual freedom and flexibility of labor-law relations. The amendment in effect since 2008 re-affirmed this trend. Employer may also conclude employment contracts that are not explicitly governed by the law as long as such contracts are not in violation of the content and purpose of the law.

In China, Although China has made awe-inspiring progress in economic development and GDP growth, it is facing formidable employment challenges while moving toward a knowledge- and service-based economy and further opening up to international competition after its WTO accession. One of China's biggest challenges during the transition is how to create 100–300 million new jobs in the coming decade to absorb the millions of laid-off workers from state-owned firms, rural migrant workers and newly added labour force.

Furthermore, it is quite obvious that Chinese workers and their families have lost the job security and social welfare that they enjoyed for decades before the reform era. Against this background, In January 2008, China adopted a new labour contract law which aims to perfect the labour contract system, clarify the rights and obligations of the parties, protect employees' lawful interests and strengthen stable labour relations.

This new law represents the most significant reform to the legislation on employment relations in mainland China in more than a decade.

The new law place more burdens on employers in general, including pressure to engage in collective bargaining over many issues and to consult workers on work-related issues such as compensation, work hours, leave, occupational safety and health, insurance and fringe benefits, training, discipline and performance norms.

The basic rules of employment relationships have also been changed by the new law in several important respects. For instance, trial periods for new workers have been shortened to a maximum of 2 months. Temporary employees paid on an hourly basis will be treated as regular employees if they work more than 24 h a week.

The All-China Federation of Trade Unions (ACFTU) has used the new law as the basis for a huge registration drive and unrelenting pressure is applied to firms to sign up with the government-affiliated monopoly union. The stated goal is to have unions in all of China's private firms by 2010.

***The major difference between the Labour Law of Czech Republic and China:***

Looking through the contents of each code, we can see that the Labour Code of Czech has given more freedom to contractual parties, even a little more preference to employer, while in China, the new labour law provides more protection to employee. It could be seen as a response to the increasing strong appeals to protect employee as they are the group of disadvantage when in conflict with employer.

The New code in China has much more stronger regulation on indefinite contracts to protect the interests of those worked in the same organization longer than 10 years. Among the biggest changes are new termination provisions, with more regulations on the conditions of termination in terms of notice and compensation etc. More pressure on collective contract; more strict restriction on the behavior of employer and highlight the supervision and punishing measures on employer who has breached the law. Also the new code adds details on transfer of employees. The new code in Czech has more clauses on Rights and duties during the labour-law relationship. Specific difference is mainly within these clauses

- The scope of the Labour Code
- Type of work contract
- Working time
- Termination provisions

Besides the changes in China's labour law's contents, the possible impacts caused by the new law stirred up a great deal of controversy on Labour relations, trade union and Human resource management in firms, including positive and negative.

The negative opinion suppose that the Labour Contract Law in its own right will have only small impacts upon employment in the fast-growing Chinese economy. Rather, possibly induced increasing unit labour costs may adversely affect employment. higher future wage growth outpacing labour productivity growth will slow employment down.[23] From 2009 till now, in striking contrast with the unemployment situation, there occurred "Lack of worker " either in the east-southern developed region or in-land provinces, at the same time, the salary of workers, esp. labour workers has

increased substantially. This event has incurred debate on “the lost of cost advantage in China ”. The direct effect on companies is the growing up of labour cost which in turn affects the price of products and services.

### **3.2.3 Trade Union and Industrial Relations**

The structure, density and role of trade unions influence HRM in terms of the range of issues on which employees speak, levels of flexibility that may be pursued and the consequences to the organization of miscalculating employee attitudes.

In Europe, legislative status and influence is accorded to unions. Most European countries are more heavily unionized in terms of union membership than USA. However, in reality, trade union influence cannot be gauged sufficiently by focusing on union density rates. A more important issue is that of trade union recognition-that is, whether the employer deals with a trade union in a collective bargaining relationship which sets terms and conditions for all or most of the employees. [74]

A central theme of HRM is the requirement to generate significant workforce commitment through developing channels of communication. In Europe the use of these formalized employee representation or trade union channels is mandatory.

#### ***3.2.3.1 Trade Union and Industrial Relations in the Czech Republic***

In Czech Republic, the economy and society transformation has led to some changes in trade unions. During communist era, only the unified so-called Revolutionary Trade Unions Movement existed, all employees were members of the unions, as it was compulsory. In this situation, trade unions had two basic but conflicting roles; to promote the achievement of production targets and to represent the interests of employees. This dual task was a source of tension. As a result of economic and political reforms unions have almost completely divorced themselves from the Party and state, and the role of union has now been reduced to representing only workers' interests [93].

The shift away from large industrial monopolies towards small firms and the growth of private sector have required a new union structure. In 1990s, the Czech former unified trade unions were divided into some independent unions which may represent interests of individual groups of employees. Most of them belong to Czech-Moravian Confederation of Trade Union, as well there is some other relatively single trade unions with small groups. In terms of size, the Confederation of trade union is the principal partner in negotiations among employers, trade unions and government. [60]

With the development of private economy, private employers feel it is necessary to

establish their own unions. In Czech, the union of Industry and Transport of the Czech Republic is one of the most prominent. This kind of industry union could have very important role in that they can develop the strategies, standards and specific sector-based knowledge and training their employee which can make the sector distinguished. This union is also the major party when negotiating with government, employee union concerning collective bargaining as well some important restructuring activities. In USA, trade union of employee is less powerful than their European counterpart, but trade union of industry did have very critical role in the development process.

The membership rate in Czech is in the trend of fall down. In 1993, 95% organizations had more than 50% employees in trade unions, this number fell to 66% of organizations and in 1998 to 48% of organizations. In 2000s, the number might be about 30%. This trend could be seen in the survey we conducted in 2009-2010, the membership of in the 60 surveyed Czech firms, minimum is 0.0%, maximum is 90%, the average percentage is 16%. Most respondents answered that the role of trade union is not important. See table3-3.

**Table 3-3 The frequency analysis on the role of union (the Czech Rep.)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not important at all	37	61.7	62.7	62.7
	Small extent	4	6.7	6.8	69.5
	moderate	11	18.3	18.6	88.1
	Strong	5	8.3	8.5	96.6
	Very strong	2	3.3	3.4	100.0
	Total	59	98.3	100.0	
Missing	System	1	1.7		
Total		60	100.0		

The decline in union membership was caused by several factors:

- Trade union has connection with communist control, so people left as a symbol to get away from the old system which was imposed on them by force.
- In the market economy, earnings and position seems more important than anything else, employees felt trade union not so important when union cannot protect employee's rights.
- Many former monopoly state-owned large companies were diversified into small and middle-sized firms, some of them were acquired by foreign company, some of them were bought by the former managers or employees. As shown in our survey, in small size company, trade union is not regarded important, employer has more control power.

- After the transformation, there are increasing international companies in Czech as well in other Central Europe countries, the employer may not support trade union, or even restrict the function of trade union. As these companies usually provide higher salary and other benefits to employees, so employees may choose not to ask for more rights. This is the similar in China.
- New forms of self-management and worker participation has undermined the unions' exclusive authority in 'interest representation'. Participation and joint consultation system could be considered a new attempt to move from traditional collective bargaining in private and JV companies.
- In many IT companies, most of employees are young and educated people who work more individually, they have no tradition to organize in trade union. Traditionally, trade union has more strong power in manufacturing industries with many manual or blue-collar workers.

However, the role of trade union has shown relationship with the size of company. The bigger company seems has more recognition of the role of trade union. This finding will be discussed in later part of this paper.

### **3.2.3.2 Trade Union and Industrial Relations in China**

In China, the trade union is different from Czech, actually different from any capitalism country. In 1950, Trade Union Law established the All-China Federation of Trade Unions (ACFTU) as the administration organization of trade union in China. The first role unions played is "transmission belts" between workers and the party, serving as partners of enterprise managers in meeting production targets while maintaining industrial peace.

Second, the regime offered workers in state enterprises job security, union membership, and a substantial array of non-wage benefits. Workers in Chinese state enterprises were similarly accorded the benefits of what became known as the "iron rice bowl." These included guarantees of job security and guaranteed access to a range of goods and services unavailable outside the state sector, which meant that the majority of the Chinese workforce are not associated with union membership or any standardized set of welfare benefits.

This tradition of trade union in China is still preserved in all state-owned enterprises, public organizations like government sector, public schools, State-owned hospitals. Since the economy reform and society transformation, some changes and adjustments could be observed.

With the growing up of private firms and foreign firms, the increase of employees in

these sectors has accelerated. There is demand on establishing and building trade union in these companies. However, the result is not desirable.

.According to 2006 China Trade Union statistics, the rate of membership in non-state owned enterprises is 58.6%, among , in foreign companies the rate is 68.35% in average, the degree of employee participation is low, and percentage of work contract is low.

Majority of private firms has not union. From a survey by State bureau of statistics, among 742 private firms, 31.86% has trade union. In comparison with small firms, large and middle size has higher percentage. Among the firms with union, membership is about 40%.

**Table 3-4 Importance of trade union**

	Very important	moderate	Not important	not know
percentage	26.77%	37.11%	11.82%	24.3%

When asked the role of union in protecting employee legal rights and labor relations, 40% employees responded the trade union has little activities or not at all. [\[22\]](#)

The data from our survey has illustrated similar response.

**Table 3-5 The frequency analysis on the role of union (China)**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Not at all	33	30.0	30.3	30.3
Small	19	17.3	17.4	47.7
moderate	43	39.1	39.4	87.2
Strong	11	10.0	10.1	97.2
Very strong	3	2.7	2.8	100.0
Total	109	99.1	100.0	

The average membership in China surveyed firms is 44.9%, apart from state-owned enterprise, the number will be even lower.

The following reason may explain why the rate of membership is low, particularly in private firm and foreign company.

➤ In state-owned enterprises (SOEs), union membership is compulsory. Trade union is under the leadership of communist party, and the leader of trade union is appointed by party. In foreign firms and private firms, the relations between the employer and employees is different from that of SOEs, they may need a trade union similar with western countries.

➤ In private firms, many employees come from laid-offs or immigrant worker from rural area, they have weak sense on protection employment and have not yet realized

the role of trade union.

➤ Private company has developed only since 1980s, during the time, they have not enjoyed the same treatment as SOEs, labour policies and other social securities system has not coordinated well, which has resulted in that these employees has not got reserved emphasis.

➤ In foreign companies, the employer has less interest with trade union. And they have more control power on issues related to labour relations. That is one of reasons why there are so many disputes and accidents happened in foreign companies in recent years.

It could be concluded that in private and foreign firms, the establishment of union is at low level, and protection of employee has not been secured.

Nevertheless, it is possible to see some improvements in the future. As the new Labour Law came into effect in 2008, one of the most important new provision is to demand employer to engage in collective bargaining over many issues and to consult workers on work-related issues such as compensation, work hours, leave, occupational safety and health, insurance and fringe benefits, training, discipline and performance norms. The requirement to listen to the unions' opinions strengthens the say of labour in business decisions. This is also one of actions toward employee involvement or say participation in decision and critical events.

The ACFTU has used the new law as the basis for a huge registration drive and pressure is applied to firms to sign up with the government-affiliated monopoly union. The stated goal is to have unions in all of China's private firms by Sep. 2010. It could be expected that the trade union will have more practical values in protecting the employees' legal rights and interests and in regulating the labour relations in the complex business environment.

### **3.3 Business Environment Influence**

#### **3.3.1 Labour Market**

Labor market dynamics and overall preferences for internal or external markets, influences the weight given to different aspects of HRM such as selection, development or performance management.[5] This is one of institutional should be interpreted in cross-national context. The following article will introduce the major characteristics and problems of the labor market in Czech Republic and China during the transition process.

##### **3.3.1.1 Labor Market in the Czech Republic.**

The opening of markets which started in 1990 produced new opportunities and incentives for labour adjustment and mobility. The labour market became an arena of constant flux in terms of institutional settings and policies, as well as in terms of people's adaptation and shifts between different labour market states or jobs.

**Table 3-6 Registered Unemployment rate in the Czech Republic (1990-2003)**

90	91	92	93	94	95	96	97	98	99	00
0.73	4.13	2.60	3.50	3.20	2.93	3.52	5.23	7.48	9.37	8.78

01	02	03	04	05	06	07	08	09
8.90	9.81	10.31	9.47	8.88	7.67	5.98	6.96	9.24

[31]Source: Czech statistics office [www.czso.cz](http://www.czso.cz) \*percent of the labour force

Looking at the statistics data on unemployment rate of CR, 1997 is a dividing line. In the first decade after the revolution, from 1990-1997, Czech has created a “miracle of employment.” There are both microeconomic (institutional) and macroeconomic explanation. In fact, it is a consequence of some different positive factors, as individual activity, entrepreneurial spirit and the tradition of small family businesses, increase of young people attending universities and other institutions of educations and etc.[60] . Some other explanation include “wage moderation”, which supposes that the government use low-wage, low-unemployment trade-off to keep the desirable employment situation together with exchange-rate policy to keep Czech wage low in terms of dollars compared to other CEE countries.

The second stage, since 1998, unemployment rate has been increasing till 2003, which is known as “Czech unemployment miracle”. Although it is taken for granted that active labor market policies by government should produce new occupational conditions.

The market reforms and stabilization policies that followed the foreign trade and price liberalization were expected to produce high unemployment in transition countries. Because of the apparent inevitability of rising unemployment, Boeri argues that in such circumstances the policy issue is not “ to prevent the rise in unemployment, but to cushion its social costs and to avoid the spread of long-term unemployment[8]”. In the Czech Republic, however, there initially appeared to be more emphasis on keeping unemployment (artificially) low, instead of moderating the consequences of relatively high transitional unemployment. [40]

This caused great concerns from both academics and state. This phenomenon may be explained by several causes related to demographic cause, the consequence of voucher privatization [57], excessive liberalization of import, the delayed restructuring of enterprises, the changing pattern of labor flows, weak job creation, the trend of



redundancies in the world within the increasing competitive global business environment.

In addition to institutional and economic interpretation, Vladislav Fleck and Jiri have found links between worker's attitude and employment state by in-depth survey and interview.

"The Czech working age population appears to be relatively less ready to migrate in order to be employed, to accept a worse job instead of unemployment, or even to learn foreign languages. Czechs score quite well in retraining and also in work intensity (although this is still much lower than in the EU countries), but are laggards in the other hypothetically offered ways of resolving unemployment problems." [46][40]

As for the mobility of Czech labor market, optimistic scholars concluded that the Czech labor market has demonstrated flexibility and efficiency in the transition. They identified that younger people, in general, and single men as individuals who are more likely to change jobs or become unemployed. The more educated are experiencing more job stability and are more likely to be hired if they are unemployed or out of the labor force. The flows between employment and unemployment are very responsive to demand conditions. [86]

Other Czech researchers have found there has increasing stagnation and diminishing market flexibility in Czech labor market, long-term unemployment and labor market rigidities exists in the post-recession period. Another occurrence is worth noticing, since 1990s, there has been a major shift in education from technical to business fields. Also business occupations expanded while technical occupations have contracted.[21] A significant movement of labor into the finance, trade and tourism sectors, and out of the agricultural and industrial sectors in the Czech Republic, which could be seen as an adjustment necessary for their transition to a market economy.

It was supposed by scholars that new labor market policies should include an emphasis on the enhancement of work flexibility through broad skills and multi-task occupations, flexible contracts and hours, and also adaptability to the workplace and related commuting or migration. This prediction made in five years ago has been tested by the time. According to the latest analysis from Czech statistics Office, The move to a shorter working time could contribute to the retaining of the levels of employment and unemployment. On the other hand, companies could mostly get rid of employees with shorter working time in the time of the economic depression. [31]

From the future development point of view the usage of part-time jobs appears, especially in the case of mothers with little children, as a suitable instrument for harmonizing of family life and work. The Czech Republic may, consult ample experience of numerous Western European countries. The choice of working time

undoubtedly improves the potential of having family and work duties orchestrated. The expanding of possible shorter working time employment contracts seems advantageous concerning future trends connected mostly to the population ageing. This trend is also supported by the New Labor Code in the increase of flexibility in work relations.

### **3.3.1.2 Labor Market in China**

The Chinese labour market has developed alongside the economic reform for which, among other things, the historically used lifetime employment model was abolished. The weakened “HuKou” system mobilizes labor in a much freer market, encouraging a diverse HR structure within organization. In addition, the labour market has seen a rapid increase of graduates since the transformation of higher education system in China, which includes the reactivation of the university entrance-selectivity policy in 1977, the dramatic increase in enrolment of university entrants since 1997. As a result, a large number of highly educated young workers have entered the labour market. Within this context, a differentiation perspective is required in order to deal with the coexistence and alternation between “old” and “new” employees. To make it more complex, the frequent exchange and high mobility of international talents requires an alternative HRM model to effectively combine international and national talents, reducing the global and local HR tension.

Despite the average 10.4% GDP growth from 1991-2008, the unemployment situation in China is still very serious and involved a complex factors. some of them are similar with Czech, like the large amount of lay-offs from state-owned enterprises’ reform and restructuring; unemployment caused by imbalance of economy structure when the traditional emphasis on heavy industry and mono-type industry in a certain areas as Ostrava. Even though, there are some other reasons worthy of attention which are special in China. The following part will describe some critical problems in China’s labor market.

**Table 3-8 Registered unemployment rate in China 1993-2009 (per cent)**

93	94	95	96	97-00	01	02	03	04	05	06	07	08	09
2.6	2.8	2.9	3	3.1	3.6	4	4.3	4.2	4.2	4.1	4.0	4.2	4.3

[26]Source: China Statistics Bureau <http://www.stats.gov.cn/tjsj/ndsj/2009/indexch.htm>

**Note:** the indicator is nominate unemployment rate. The unemployed include only the registered ones in cities and town. In fact, there are other types of implicit unemployed not included in, as laid-offs, redundancies, rural unemployed. The real unemployment rate in urban is much higher than the registered unemployment rate.

In general, the unemployment in China is typical of co-existence of Aggregate supply over aggregate demand, and structural imbalance. A strange phenomenon in

economics is demonstrated by high GDP growth with high unemployment and with high inflation at the same time. Mainstream opinions supposed that this problem might be caused by the following reasons:

**a. Aggregate oversupply of labor force.** The major source of supply of labor forces comes from national population growth, rapid increase of university graduates and a huge amount of immigrant labor from rural area. In the case of China, the absolute data is more striking than relative data considering its paramount size of population. It is prospected that China population keeps on growing in the future 20 years, by 2016 at its peak will be with labor supply 997 million, while demand by then is about 810-860 million.[24] The enlargement of enrollment of university has led to the too rapid increase of graduates per year, from 2.8 million (2004)to 6.0 millions (2009). In the meantime, there is approximately 150 million redundant rural labors who will probably immigrate to urban area at any time to look for job. In addition to the above new supply, there is historical unemployed people 14 million (unemployed 8 millions& laid-offs 6 millions). Average 24 million people waiting or employment per year, while the new increase employment position is supposed to be 8.0-9.0 million per year, (Calculate in the rate of 8% GDP growth), the gap is still over 10 million.

**b. The effect of economic growth on employment increase is weakening.**

Economic growth is a necessity to bring employment increase. However, it occurred in China that continous high economy growth coexists with increasingly serious unemployment. There are many empirical analyses on this problem, a group reserachers think that the employment elasticity decrease is one of the reasons.

**Table 3-8 Employment elasticity in China (1980-2007)**

1980-1989	1990-1999	2000-2007
0.354	0.169	0.097

[26] Source: China statistics 2007

Employment elasticity is a measure of the percentage increase in employment due to a percentage increase in output. In China, the employment elasticity is at the highest level in 1980s, which is at the beginning of economic reform, since 1990s, it has gradually decreased. The “pull” effect of economic growth on employment growth is weakening.

**c. Structural imbalance within unemployment.** This problem was formed by a series of reasons depend on what kind of imbalance in question. The reform and restructuring of SOEs has made the imbalance between enterprises of

different ownership. The existence of levels and obstacles in labor market led to the imbalance between rural labor and urban labor; the former improper distribution of industry has caused the employment imbalance between industries; the difference of economic performance and employment policies of local government has seen unfairness between the regions. The quality and skills of demand on labor could be not satisfied by supply side, as a result some positions cannot find suitable staff, some are over-competed, which is obvious in the job application of fresh graduates and rural migrant workers.

**d. The replacement of labor by new technology and capital.** During the process of modernization, accelerated by enlarging of capital investment either from local government and foreign investors, the traditional industry in China has gradually introduced new technology, installed automatic production lines and automatic operation system, as a result, many labors were laid off. It is an effect of labor replacement by technology and capital.

Up to now, there has been a series of policies and measures supposed to relieve and decrease the unemployment issue in China.

- Maintain the policies on support the development of private economy and foreign invest as it is significant not only in GDP growth but more important for employment. The employees in private sector has become more than that of state sector, (79.04 Vs 64.47 millions in 2008). Foreign companies have also absorbed a large quantity of employees and increase year on year. Up to the end of 2008, it has 16.22 million employees. In coast region of China, this sector ranks the first in terms of numbers of labour force.
- Place the “preference for keeping employment” on the top of macro-economic policy, advocate the prosperity of technology-intensive and labor-intensive industries. Accelerate the process of urbanization and help rural labor to work in their township companies instead of migrant to the crowded and pressured city.
- Re-employment project for those redundancies from SOEs restructuring. Provide training courses and opportunity, create more channels of flexible employment in cities. Provide fund or give tax favorable policies to develop service sector in the former heavy industry town to increase their employment chances and relieve the higher unemployment pressure.

In any case, to set up and develop a healthy and free mobile labor market is one of the most important tasks and also most difficult one for government in a market

economy, which need long-term efforts and cooperation from all sides of the society.

HRM interacts with the labour force in two ways. It deals with individuals in the labour market through the activities of manpower planning, recruitment, selection, training and by administering payment and other rewards. Secondly, it deals with the organized labour force through the mechanisms of joint consultations, collective bargaining and conflict management. A healthy and free mobile labor market will support the organization to acquire talent they need and also through the market mechanism of labor market, it is good to nurture a competitive environment to increase the values of human capitals.

### **3.3.2 International Economic Integration**

Besides the influence from local economy, international economic and political integration have had a significant impact on management decisions and business behavior. The operation of such a region can influence the location of production, the targeting of markets, and lead to increased FDI and joint venture activity. For the Czech Republic, entry to European unions has caused profound changes in economy, society, legislation, management to the country and the business embedded in. For China, join in WTO is also a historical event and the influence has been observed in all aspects of the society. This part, we prefer to discuss the potential impact on the business human resource management.

#### **3.3.2.1 *Impact of the Move to EU on HRM***

The impact of EU membership on human resource management is by no means direct. It may exert influence on organization through labour market and legislation as well relevant social environments. Organizations respond to the uncertainties from these environments, i.g. directives on protection of workers, collective redundancies, European works councils, equal opportunities and labor legislation as well as on other instruments, such as workers' participation and social protection by developing their HRM systems and practices.

As Gooderham claimed, market and pan European forces are generating convergence in HRM practices among EU firms, while deep seated and fundamental differences between EU countries influence their divergent approaches.[\[44\]](#)

The most prominent pan European force could be attributed to the Free Flow of within its borders of persons, services, goods and capital and free entrepreneurship. While the external force from EU on new members may be similar, the impacts on a certain country and even a certain organization still depends on more specific conditions and interaction between organization and its external environment.

Let us examine the free flow and its potential influence on Czech enterprises.

**Free flow of goods** increases the competitive pressure on home producers. In the foreign trade of Czech, import increase annually from EU except in 2009, 2010 due to the crisis. The effect of replacement by import has resulted in a substantial decrease in the jobs in Czech, as agricultural, food industry. Together with the large amount of imports from China in terms of clothing, shoemaking and toys etc. lead to close down of some local factories in these areas.

**Free flow of capital** leads to the flow of FDI to Czech, thanks to its favorable investment environment with skillful, well-educated human capitals. This has contributed to the economy growth but on the other side, it intensified the market competition and restructuring of local firms, through green field new companies, M&A, take-over of the local companies etc. while it create some opportunities for competent people to move to better companies, it caused a lot of people unemployed. During this process, HR department has to deal with redundancies, dismissal, replacement and make adjustment or change with job position. In the case of M&A, HR has taken on even more challenging responsibilities, as it is most difficult to integrate the employee from two different companies. The failure of HRM functions account for a big part of failure of M&A.

Foreign firms will bring their management system and human resource practices, such as public recruitment with help of head hunter, performance-based pay. Other companies may learn from it when it has better functions. Also, the foreign companies tend to attract local talents by higher pay than local firms especially for technology specialists and marketing managers. This pushes up the wages up and stimulate excellent employees leave their former employer.

**Free flow of labor.** It is understandable that old EU members fear strong inflow of labour from new members. But in the case of Czech Republic, it proved groundless. Czech people like working abroad for some time to gain experience, to travel, but they don't like to live out of their country for a long time. In the culture and history of Czech nation, they are known for their strong love and dependence on their home land. This is also supported by a survey, which shows that Czech employees don't like to work under foreign managers.

### ***3.3.2.2 Impact of China's accession to WTO on HRM***

China's entry into the WTO will make China's door even more open. Both foreign investment and foreign trade are expected to increase. Trade will increase in both directions, Chinese tariffs will be lowered, and Chinese goods will have better access to world markets open to members of the WTO. Using foreign competition to stimulate

the domestic economy is a major objective in seeking to join WTO, as explicitly stated by Premier Zhu Rongji.

However, entry into WTO for China is a double-edged sword. The Chinese government is well aware of the economic and social-political costs and benefits of joining WTO. While it is pursuing institutional reforms in state-owned enterprises and the banking and financial sectors, it is aware that the reforms and the accompanying globalization of the Chinese economy have to proceed gradually in an appropriate speed, so as to protect Chinese producers and enterprises not to be exposed to competitive international market too severe to be socially desirable.

At the enterprise-level, the impact of entry into WTO has brought more threats than opportunities for the time being. Domestic industries are affected once tariff and non-tariff came down, greater labour surpluses, lower wage and more unemployment occurred., which in turn caused the relocation, downsizing and retraining of local companies. They are under pressure to create or adapt to new HRM system and practices like flexibility, fix-term contract, performance based evaluation and compensation in order to retain their staff and survive. Competition and insecurity among employees are more apparent since WTO.[2]

It is hardly to generalize the situation in China because of its complex in nature. From a survey and interview conducted on the challenge of China entry into WTO, it was found that there a division between an active response through innovative strategies and new HR practices on the one hand (described as 'proactive') and being passive and less dynamic towards challenges on the other hand (described as 'reactive'). Foreign enterprises, coastal located enterprises, high value-added enterprise, enterprise with modern management system are more likely to have proactive response than SOEs, domestic private enterprises, in-land located enterprises, labour-intensive enterprises, with state-planning or family business management.

Another complex is represented by "disparity", the Gini index in China has been increasing from 2004 0.47 till now more than 0.5, classified as the country with apparent disparity. The 'international division of labour' has now been brought into the Chinese domestic domain even more with WTO accession .The problem of income disparity between the urban and rural population and even between urban rich and poor has become even wider. On one side, many more people are today engaged in high value-added 'hi-tech' industries and the new economy, with a higher income, coexisting with a declining manual labor force working in labor intensive/low value-added industries and rural production. Even worse, a significant number of laid-offs in cities, living only on the minimum income. [64]

In a word, the access to WTO has brought both opportunities and threats to enterprises involved, how well to manage it, to take advantage of opportunities and avoid threats and risks is a critical question for their survival. Out of doubt, especially in the changing environment, HR should perform more function to support business with new and more competitive HRM practices, to obtain, to retain, to retrain their human capital so as to improve competitiveness in the turbulent market in current China. The direction of future change depends on the interaction between enterprise and their external forces, as well as on the development of internal strategies and their human resources.

### **3.4 Contingent Variables**

As mentioned in the literature review, a prominent stream of research has examined the influence of a number of contingent variables on HRM practices. these are the main mediating factors on which the influence of national context (national culture, institutions, business market) have been seen 'to depend.'

Specifically, the various contingent variables shown to determine HRM policies and practices may include:

- Size of the organization;
- Type of ownership;
- Industry/sector in which the organization located;
- Level of technology
- Life cycle stage of the organization;
- Type of HR strategy
- Structure of organization and etc.

In this study, only three of these variables are selected as industry, size and ownership, as these three variables are included in the survey. Since it is groundless to generalize how these contingent variables influence HRM practices without a given situation, we prefer to discuss it on the background of statistical analysis in this study.

In this part, it delineates the main distinctive facets of associated with Czech and China's national culture, transition economy, institutional factors as employment legislation, labor market, trade union and external influence from international organization as EU and WTO. These are very important and can be used to understand and evaluate cross-national comparative HRM policies and practices.

## **4 Methodology**



This paper is an exploration to study the human resource management practice in Czech and China firms in a comparative view. As there is no similar study so far, this study conducted a survey in both countries to acquire the first-hand information and ensure its reliability, which is a very important part integrated in this diploma work and provided a large amount of first-hand data on HRM practice in Czech and China organizations. Based on the data from survey, a system of methodology was designed which include data processin, statistical analysis, visualization of results.

In this system, various analysis methods are utilized as Description analysis, One-way Anova analysis, Hierarchical cluster and K-means cluster analysis, and these methods are interrelated and support each other. For instance, the results of description analysis have indicated on which variables has shown significant difference, then further cluster analysis could be made on these variables. In a word, the output of previous method could be the input of the next method, one finding could be verified by different analysis approach. Thus, through step-by-step analysis, in-depth research has been done, to identify the main difference on HRM practices between Czech and China companies; to investigate the factors which may relate to HRM practices, such as nation, ownership, size, industry; to find out potential pattern of HRM.

This survey was conducted in Czech Republic and China from July 2009 to January 2010.

#### **4.1 Method of Survey and Participants**

A questionnaire was used in the survey. The questionnaire was pre- tested in a pilot study, and ammended according to the feedback from several firms.It was translated into Czech language and Chinese language by professionals.The survey was carried out in Czech and China in respective. (See Annex 1, 2, 3)

In Czech, the survey is greatly supported by the professors and teachers from Department of Economics and Management, FMMI, VSB-TUO. They sent the questionnaire to companies which have contacts with the school, and got 29 answers from these companies. The other 31 questionnaires come from on-job MBA students who study in Faculty of Economics, thanks to the support from professor from EKF. VSB-TUO.

Most of the correspondents are directors and managers of these companies, some of them are directly responsible for HR department, some of them are HR managers.The source and quality of correspondents ensure the reliablility and orginality of these answers.

In China, we have utilized more sources to ensure the samples cover more regions as China is a large country, including recruitment exposition, personal visit, email, class etc. In a Graduates Recruitment meeting held in our university campus, we made a field survey with many companies who come to recruit graduates, these companies come from different region and cities, the participants usually are HR managers or employees in HR department, and we collected 47 answers from this source.

Through email, I sent the questionnaire to two sources:

- Companies which has cooperation with our university
- To my students major in Human resource management. Many of them are working as HR professionals since graduation in 2006.

These participants are mainly in Wuhan and other cities in Hubei province. We got 52 answers through this way. In order to acknowledge firms in southern China, I managed to make a survey and got 11 response from a group of MBA students at a university in Fujian, a province located in east-south of China. These students are young managers of local companies, or Joint venture companies.

Figure4-1

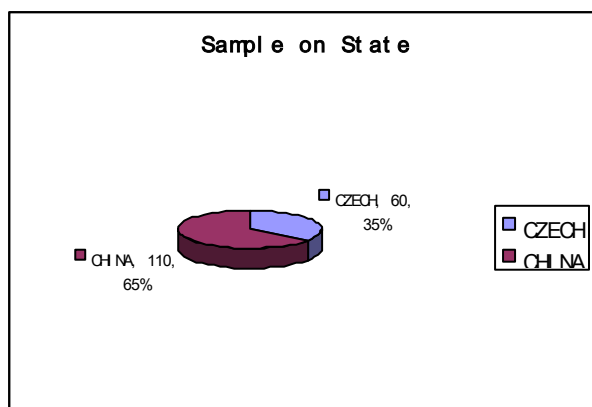
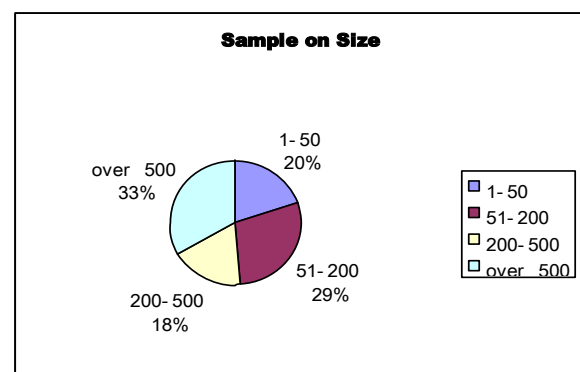
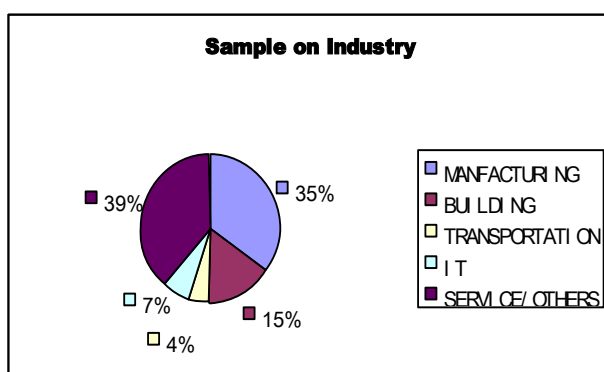
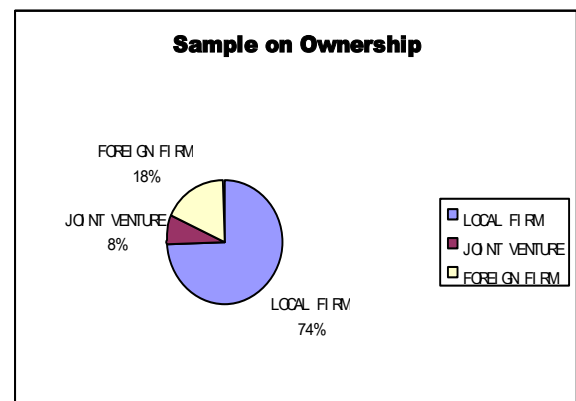


Figure4-2



In addition, a field interview was conducted among HR managers and supervisors at

10 firms in China and 2 firms in Czech. They were asked to describe the most frequently used HR practices in their companies in relation to organizational changes and the most common problems existed.

Altogether we sent out 150 questionnaires and collect effective answers 110, response rate was 73%. The distribution of sample is illustrated as in the following figures. ( Figure 4-1, 4-2, 4-3, 4-4)

The distribution of sample complies with the real situation, in that there are more local firms than joint venture and foreign firms; more firms in the industry of manufacturing and service than other industries. The size of sample is in balance.

## **4.2 Measurement and Statistics Software**

In the questionnaire (see annex1), we use the typical classification according to HRM function as Recruitment and Selection; Training and Development; Compensation; Performance Appraisal and Trade union. Each category has 2-5 questions, all together 23 questions on HRM practices. Most of question are on a five-point Likert scale(not important –very important); 3 questions measured in numeric values (fill the real data), 3 questions have rank in preference by ordinal numbers. Most of the variables are measured in ordinal or nominal. For single- choice question, each represent a variable, for multi-choice question, each choice item represent a variable. In addition, there are 4 questions on company profile as state, size, ownership and industry/sector.

In this study, we use the statistics software -SPSS13.0 for windows to do all analysis. SPSS is the abbreviation of both Statistical Package for the Social Science, and Statistical Product and Service Solution. SPSS for Windows provides a powerful statistical analysis and data management system in a graphical environment. It is one of the most accepted Statistical software (SPSS, SAS, S-Plus/R, STATA, GUASS), and get recognition because of its friendly interface and convenient operation platporm.

## **4.3 Descriptive Analysis**

The Descriptives procedure displays univariate summary statistics for several variables in a single table and calculates standardized values (z scores). Variables can be ordered by the size of their means (in ascending or descending order), alphabetically, or by the order in which you select the variables (the default).Descriptive analysis is the most widely used method in practical application. More important, it is the basis of other analysis. Normally, we start with descriptive analysis getting to know the basic characteristics of sample data, then decide what

methods to use in further steps.

In this study, we used frequency analysis to find the basic frequency distribution of single variable data, use the Crosstabs procedure for the joint frequency information on two variables. Crosstabs forms two-way and multi-way tables and provides a variety of tests and measures of association for two-way tables. For example, we can use crosstabs to see how about the answers distribute on variables 'state ' and 'Recruitment sources' . It could be seen there is more external recruitment in China, while more internal in Czech, see table 4-1.

**Table 4-1 Crosstab of State and Recruitment**

			Recruitment					Total
			most internal	more internal	balance	more external	most external	
State	China	Count	3	14	26	13	53	109
		% within State	2.8%	12.8%	23.9%	11.9%	48.6%	100.0%
		%within Recruitment	18.8%	70.0%	63.4%	36.1%	94.6%	64.5%
	Czech	Count	13	6	15	23	3	60
		% within State	21.7%	10.0%	25.0%	38.3%	5.0%	100.0%
		% within Recruitment	81.3%	30.0%	36.6%	63.9%	5.4%	35.5%
Total		Count	16	20	41	36	56	169
		% within State	9.5%	11.8%	24.3%	21.3%	33.1%	100.0%
		% within Recruitment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

**Table4-2 Chi-Square Tests state\*recruitment**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	49.801	4	0.000
Likelihood Ratio	55.654	4	0.000
Linear-by-Linear Association	20.624	1	0.000
N of Valid Cases	169		

Furthermore, we can use the joint frequency to examine whether two variables are dependent by means of 'Chi-square'. This is widely used when examine whether a variable (represent a certain item of HRM practice) has relations with state. In this case, the Asymp.sig (2-sided) smaller than significance level at 0.05, thus we can say that these two variables are dependent. All the original data can be seen at Annex3. Here we summerize the main findings from descriptive analysis.

The descriptive analysis (frequency, cross-table analysis) of specific practice within all

the function area, say, selection/recruitment, compensation, performance appraisal and training practices allows for a clear picture of HRM difference and similarities between Czech and China companies.

**Table 4-3 Significant differences between Czech and China firms**

	<b>Czech firms</b>	<b>China firms</b>	<b>Sig.(p)</b>
<b>Recruitment &amp;selection</b>			
Use of References	More (85.5%)	Less (59%)	0.000***
Importance of Recommendation	More(60%)	Less(24.5%)	0.001***
External recruitment	Less (5.0%)	More(48.2%)	0.000***
<b>Training&amp;Development</b>			
Use of on-job training	Less(45%)	More(79.2%)	0.001***
use of off-job training	More(57%)	less (40%)	0.003**
expense on employee training	Less	More	0.000***
expense on management training	Less	More	0.002**
<b>Performance Appraisal</b>			
Personal interview with supervisor	More (53.8%)	Less(28.4%)	0.000***
Written performance reports	Less(27.5%)	More(56.7%)	0.000***
Performance appraisal by peers	Less(5%)	More(20.9%)	0.000***
Performance appraisal by subordinates	Less(4.7%)	More(15.9%)	0.000***
performance appraisal favouritism	More (90%)	Less(7.3%)	0.000***
<b>Compensation</b>			
importance of group objectives	Less(68%)	More(88%)	0.003**
importance of individual performance	More(65%)	Less(35.8%)	0.009**
importance of seniority	less(23.3%)	More(50.6%)	0.000***
Temporary contracts	More (14.3%)	less (8.2%)	0.018**
<b>Union</b>			
Importance of Union	Less(30.5%)	More(52.3%)	0.001***
Membership	Less(15.9%)	More(44.9%)	0.000***
<b>Note: significance level *** p&lt;0.001, ** p&lt;0.01, *p&lt;0.05</b>			

The analysis showed that there were significant differences in human recourse

practices between China and Czech. See table 4-3. With those variables of significant difference, we will analyze with furthermore methods to investigate more details of the difference.

These different practices covered all the categories, among, performance appraisal and trade union have seen the most significant differences. There are only two variables in the area of trade union, both showed obvious difference across countries. The result supports our hypothesis that significant differences exist between Czech and China. What these difference mean and what possible explanations for that will be discussed in next chapter.

Secondly, we have found that in the multiple choice questions, In terms of appraisal methods, appraisal participant, selection methods, appraisal objectives, Czech and China firms have very similar choices, but the rank of preference has some differences. This could be seen from the frequency analysis from each country.

**Table4-4 SX9 Frequencies-CZECH- CHINA**

		Responses	
		China Percent	Czech Percent
evaluation methods(a)	PA-supervisor interview	28.4%	53.8%
	PA- informal	14.9%	18.7%
	PA-written report	56.7%	27.5%

Czech firms use more often supervisor interview than written report, while it is just on the contrary of China firms. This means it is also necessary to know the preference of each method or practice in addition to what methods adopted. For example, both Czech and China choose interview as their major selection method, 70% Czech firms rank it the first, while 52.9% China.

Thirdly, through crosstabs analysis between Size/ownership/industry and all other variables, we have found that exists some relations. Size of firm has relationship with management training expense, favoritism in performance appraisal, salary factor, union's role and union membership. The firm with 51-200 employees behaves more different from other size, in terms of salary determination factors, trade union. it seems that the bigger size, the stronger union.

Ownership of firm has shown relationship with practices such as selection, performance appraisal objectives, variable pay and membership. Our quantitative results showed that the 80% foreign company choose Performance improvement as the first objective of appraisal, while local firms 64.8%, joint ventures 37.5%; while 18% local firms think promotion is one of objective, only 8% of foreign firms think so. As regard to membership, about 43% local firms have membership more than 80%, no foreign companies in this level. More foreign companies than local companies has profit-shares as one of variable pay. No foreign companies think informal selection

important to them, while 14.6% local firms do.

Industry has significant relations with the importance of recommendation in recruitment and the importance of vocational education and training. As well, it is shown from the data that there is difference in performance method and recruitment sources. IT Industry give much more emphasis on training than other industries, salary depend more on individual performance. IT industry and building industry use written report as the main approach of performance appraisal, while service business use interview more often. IT industry recruit employee mainly externally. The relations between institutional factors and HRM practices need further analysis, to testify if there is significant difference between samples, to what extent. Therefore, we turn to ANOVA to find more answers.

#### **4.4 Variances Analysis**

Cross-table indicates the pair of related variables, however, this is shown only in frequency, but cannot show the means, and the specific difference between groups. Therefore we need to use more advanced method as independent sample test and one-way ANOVA analysis. The Independent-Samples T Test procedure compares means for two groups of cases. We use it to test the variance between China and Czech.

The One-Way ANOVA procedure produces a one-way analysis of variance for a quantitative dependent variable by a single factor (independent) variable. Analysis of variance is used to test the hypothesis that several means are equal. This technique is an extension of the two-sample t test. we use it to test variance between different Size, different ownership and different industry. In addition to determining that differences exist among the means, we also want to know the difference between each category, so we use post hoc tests which provide the multiple comparisons after the experiment has been conducted.

##### **4.4.1 Compare HRM Practices Across States**

The independent –Sample Test has proved that Czech and China has significant difference on 13 dimensions which covered all functional area of HRM practices, this testify the results from crosstabs analysis. The comparison of means is shown in Table 4-5. Comparing the means, we can see that Czech firms has much higher level in terms of “The importance of recommendation”, “appraisal by supervisor interview” and “the influence of favoritism in appraisal”. The third one is an result out of our expect. Because we think Chinese culture pay more attention on relationship in social life and in organization. We expect that China firms will have more level in this

respect.

On the other dimensions, China has higher level than Czech firms. In a brief summary, China firms has much more external recruitment; more percentage invested on training employee and managers; more people like employee self, colleague and subordinate participate performance appraisal in addition to supervisor. As for the factors determining salary, China has more consideration on the achievement of group objectives and employee's age. Trade union in two countries differs, China has higher percentage of membership (41% vs 27%), higher perception on the importance of trade union.

**Table4-5 Means across State**

	State	N	Mean	Std. Deviation	Std. Error Mean	F	Sig. (2-tailed)
selection-references	China	80	3.06	1.470	0.164	15.321	0.028
	Czech	55	2.62	0.850	0.115		
importance of Recommendation	China	110	2.82	1.051	0.100	1.187	0.000
	Czech	60	3.73	0.861	0.111		
recruitment sources	China	109	3.91	1.221	0.117	0.247	0.000
	Czech	60	2.95	1.254	0.162		
expense on employee training	China	107	2.30	1.347	0.130	42.459	0.000
	Czech	54	1.37	0.592	0.081		
expense on management training	China	105	2.39	1.341	0.131	16.974	0.000
	Czech	55	1.60	0.784	0.106		
appraisal method-supervisor interview	China	110	0.36	0.483	0.046	31.669	0.000
	Czech	60	0.82	0.390	0.050		
appraisal method-written reports	China	110	0.73	0.447	0.043	10.614	0.000
	Czech	60	0.42	0.497	0.064		
appraisal participants-peers favoritism	China	110	0.52	0.502	0.048	454.764	0.000
	Czech	60	0.05	0.220	0.028		
salary level depends on group objectives	China	110	2.37	1.074	0.102	74.108	0.000
	Czech	60	3.97	0.450	0.058		
salary level depends on seniority	China	109	4.23	0.968	0.093	0.393	0.017
	Czech	60	3.85	0.988	0.128		
union membership	China	109	3.00	0.972	0.093	0.129	0.000
	Czech	60	2.02	0.930	0.120		
Role of Union	China	98	0.44959	0.407259	0.041139	49.742	0.000
	Czech	57	0.15912	0.269711	0.035724		
	China	109	2.38	1.104	0.106	0.751	0.004
	Czech	59	1.83	1.206	0.157		

#### 4.4.2 Compare HRM Practices Across Sizes



Through the One-Way ANOVA analysis on Size, we found that four of HRM practices have significant difference between different size. They are “importance of the achievement of group objectives in determining salary X171”, “ X173 importance of seniority in determining salary”, “X18 percentage of union membership”, “X19 the role of trade union”. Three of the variables (X171, X18, X19) has also been found in the crosstab analysis.

**Table 4-6 ANOVA on Size**

		Sum of Squares	df	Mean Square	F	Sig.
salary level depends on group objectives	Between Groups	16.449	3	5.483	6.108	0.001
	Within Groups	147.211	164	0.898		
	Total	163.661	167			
salary level depends on seniority	Between Groups	20.498	3	6.833	6.667	0.000
	Within Groups	168.073	164	1.025		
	Total	188.571	167			
union membership	Between Groups	3.783	3	1.261	9.805	0.000
	Within Groups	19.420	151	0.129		
	Total	23.203	154			
Role of Union	Between Groups	68.791	3	22.930	23.588	0.000
	Within Groups	158.454	163	0.972		
	Total	227.246	166			

**Note: Significance level at 0.05**

In the multiple comparison, (see Annex4) we found that on the dimension of “salary level depends on achievement of group objectives”, the large firm (above 500 employees) has the highest level, and small firm (with 51-200 employees) has the lowest level. Other firms have the middle level, which means that the larger firms pay more emphasis on the achievement of group objectives, but it is not linear relationship. Because the micro firm(1-50) is not the lowest. On the dimension of “salary level depends on seniority”, middle-size firm (201-500) has the highest level, the second highest is large firms, then small firms, the micro firm (1-50) is the lowest. It is also not linear relations. That is why it is not suitable to use correlation analysis to identify the relations in this case.

Concerning trade union membership, micro firms have the lowest membership percentage, small firms the second lowest, the middle size firms higher, and the large firms has the highest. In this dimension, it has show linear positive correlation between union membership with size, this complies with observation. The larger company, the more important of union and the higher percentage of union members. Is the role of union also has the same relations with size of firms? Exactly, the same. We found that  $S_4 - S_3 = 0.495$ ,  $S_3 - S_2 = 0.621$ ,  $S_2 - S_1 = 0.786$ , ( $S_1$ - size of 1-50,  $S_4$ —size of above 500), so we can say that the larger size, the more important for trade union. Also the difference is very big, eg.  $S_4 - S_1 = 1.686$ ,  $S_4 - S_2 = 1.116$ . in the

ordinal measurement, for instance, if S4 average choose “union is strong”, S1 is “union has role to a small extent”. The salary factors and trade union has proved to relate to the size of firm. Inspired by these findings, we made correlations analysis between Size and X18, X19 respectively. The result has shown significant positive correlation.

**Table 4-7 Bivariate analysis of Size and union**

		<b>X19</b>	<b>X18</b>
<b>Size</b>	<b>Pearson Correlation</b>	<b>0.550</b>	<b>0.39</b>
	<b>Kendall's tau_b</b>	<b>0.476</b>	<b>0.391</b>
	<b>Spearman's rho</b>	<b>0.560</b>	<b>0.492</b>

**Note: Correlation is significant at the 0.01 level (2-tailed)**

#### 4.4.3 Compare HRM Practices Across Ownerships

We have three types of ownership in our survey, local firms, joint-ventures and foreign company. Although the numbers of joint venture and foreign company is small compared with local firms in our survey, it has shown difference in our analysis.

**Table 4-8 ANOVA on Ownership**

			Sum of		Mean		
			Squares	df	Square	F	Sig.
appraisal objective-for pay	Between	(Combined)	23.559	2	11.779	6.224	0.003
	Groups						
	Within Groups		247.911	131	1.892		
	Total		271.470	133			
appraisal objective-1 improvement	Between	(Combined)	6.768	2	3.384	4.793	0.010
	Groups						
	Within Groups		104.503	148	0.706		
	Total		111.272	150			
appraisal objective-for promotion	Between	(Combined)	10.463	2	5.232	4.571	0.013
	Groups						
	Within Groups		117.886	103	1.145		
	Total		128.349	105			
variable pay forms-bonus	Between	(Combined)	1.139	2	0.569	5.226	0.006
	Groups						
	Within Groups		17.980	165	0.109		
	Total		19.119	167			
union membership	Between	(Combined)	0.712	2	0.356	2.405	0.094
	Groups						
	Within Groups		22.491	152	0.148		
	Total		23.203	154			

**Note: Significance level at 0.05**

There are five variables identified difference between different ownership. They are

concentrated in the Performance appraisal objective, “objective for pay”, “objective for performance improvement”, “objective for promotion”, which examine the objective of performance appraisal. They can choose more than one choice, and rank according to the preference or frequency in their management job. The other two dimension are „variable pay form- bonus“, and „trade union membership “. Although, trade union has not shown as significant as other four variables, I put it here in order to test if there is obvious difference between local and foreign company, which was found in crosstab analysis.

From the multiple comparison (see annex 5), we saw that Foreign firms has the highest level in three dimensions. Firstly, object for pay, the foreign firms has much higher rank (1.082) than both local and joint-ventures. Secondly, objective for promotion, foreign firms also has significant higher rank (1.208) than joint venture and local firms. In terms of “pay form-bonus“, more foreign firms choose this answer than local, and local firms more than joint-ventures. In all these dimensions, local firms higher than joint-venture, and lower than foreign firms.

On the dimension of „object for performance improvement“, we found that the joint ventures rank the highest, then local firms, foreign firms the lowest. The same rank could be seen in the trade union membership. Usually, we think joint –ventures would be more similar to foreign firms in that they have foreign partner, the management practice could be introduced in joint venture. But in this case, it seems not. Joint venture behaves more closed to local firms rather than foreign firms. If it could be interpreted that joint ventures adopt more local practices, and even foreign companies has the trend to localize, remained a question.

#### **4.4.4 Compare HRM Practices Across Industries**

From the Anova analysis on industry, we have found that three variables have significant variance between industries. They are “Importance of training“, “appraisal method-written report“ and ‘appraisal participant-supervisor’. From the multiple comparison (see Annex6), we found IT industry has highest level with training importance, the next one is manufacturing, building industry, service and the transportation industry is the lowest. This could be explained by the technology level in different industries, IT has the highest demanding on technology, they need to learn new knowledge and skills constantly. As to appraisal form, building industry use more often of written report, then IT, manufacturing, service and transportation still the lowest. In terms of supervisor participate during performance appraisal, IT is still the highest, transportation the lowest.

Up to now, we have summerized the main results from variance analysis, it has proved that the control variables as state, size, ownership and industry do have

difference on some dimensions of HRM practices. State difference could be seen in all HRM function area, size difference related to compensation and trade union, ownership difference related mainly to performance objective and variable pay form, and industry difference mainly related to training and appraisal method.

**Table4-9 ANOVA on industry**

		Sum of Squares	df	Mean Square	F	Sig.
importance of Training	Between Groups	14.104	4	3.526	4.330	0.002
	Within Groups	132.747	163	0.814		
	Total	146.851	167			
appraisal method-written reports	Between Groups	3.303	4	0.826	3.706	0.006
	Within Groups	36.316	163	0.223		
	Total	39.619	167			
appraisal participants-supervisor	Between Groups	1.126	4	0.281	5.011	0.001
	Within Groups	9.154	163	0.056		
	Total	10.280	167			

**Note: Significance level at 0.05**

What is the implication of these findings? How to explain these differences in view of comparative HRM? These questions would be discussed in next sector of this paper.

## 4.5 Cluster Analysis

In addition to the analysis on single variable, we want to know if there is any group of firms which has similar feature in terms of several variables, if it is possible to find any pattern of HRM practice. Cluster analysis is just the right tool to do this job. Two cluster methods were used in our study. Cluster analysis on cases requires the variable be scale measurement. However, in our data, most of the variables are nominal or ordinal, therefore all the nominal and ordinal data must be standardized first of all. The logic is to make the new value according to the formula, the sum of all values equals 0, each value  $\in [-1,1]$ , the new value take the distance between each value into account to ensure the distance is same, which is critical for cluster analysis.

**The formula is:**  $X1=2*(X-\Phi)/(Xmax-Xmin)$

**X1 ---- the new value  $\in [-1,1]$ , X---- the old value,  $\Phi$ ---- average of the old values ,**

**Xmax---- the max of old value, Xmin---- the minimum of old value.**

As the average depends on the number of possible choices(N) in the question, we made 5 groups to do the calculation. Then we replace all the old value at Excel sheet, and put into DATASPSS document.

Secondly, we use Hierarchical cluster, selecting the Ward's method, Squared Euclidean Distance, and succeed to output dendrogram on the same group of variables as in the K-means cluster. The Dendrogram can explicitly present which firms are in one cluster, if there is any common features of these firms. Through Cluster analysis we did find some clusters with sufficient homegeneity within cluster, and difference between clusters.

**Table 4-10 Standardization of Data**

	<b>New Values</b>					
	X1	X2	X3	X4	X5	X6
N=2	-1	1				
N=3	-1	0	1			
N=4	-1	-0.33	0.33	1		
N=5	-1	-0.5	0	0.5	1	
N=6	-1	-0.67	-0.33	0.33	0.67	1

Then, according to the suitable numbers fo clusters, we use K-means cluster attempts to identify relatively homogeneous groups of cases based on selected characteristics, using an algorithm that can handle large numbers of cases. We choose updating cluster centers iteratively, save cluster membership, distance information, and final cluster centers. We also request analysis of variance F statistics. While these statistics are opportunistic (the procedure tries to form groups that do differ), the relative size of the statistics provides information about each variable's contribution to the separation of the groups. When a variable is not significant , we can delete it. This help us to find more suitable variables for clustering.

#### **4.5.1 Cluster on State**

Within all cases, through clustering on State and other 9 variables, we found three clusters. F test has shown on all the 10 variables, the clusters has significant difference at the level of 0.005, see table 4-11

Cluster1 &2 has the same value on state, we can refer them as Chinese firms, actually it is. Cluster 1 has 30 firms all Chinese, cluster 2 has 27 firms, only one Czech firm. Cluster 3 is the biggest group composed of 46 Czech firms and 20 China firms. We can regard cluster 3 represent more toward Czech firms, the included 20 China firms has similar practices to Czech firms in these dimensions, therefore they are included in the same group. Except on the indicator of “selection-references“, “salary level depends on individual performance”, (see the point 2, 8) cluster 3 is lower in all other HRM practice indicators. This result is in line with what we see in descriptive analysis. Czech firms has much more choice on the use of reference during selection than China counterparts (85% Vs 59%), also the preference rank is higher than China.

On the question “how it is important of individual performance related to salary level?” the Czech response has 65% to say it is very important, China has 35.8%. on the question on the importance of seniority related to salary, only 10% Czech firms regard it is important and none chose” very important”, while 22.0% important and 6.4% very important in China response.

**Table 4-11 ANOVA on State**

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
State	51.058	2	0.000	101	.	.
selection-references	1.710	2	0.303	101	5.645	0.005
recruitment sources	3.372	2	0.388	101	8.682	0.000
expense on employee Training	2.593	2	0.316	101	8.199	0.001
appraisal method-written reports	8.669	2	0.748	101	11.591	0.000
appraisal participants-peers	38.689	2	0.209	101	185.328	0.000
variable pay forms-share options	1.732	2	0.258	101	6.707	0.002
salary level depends on individual performance	1.620	2	0.181	101	8.959	0.000
salary level depends on seniority	3.164	2	0.251	101	12.592	0.000
Role of Union	2.225	2	0.297	101	7.485	0.001

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters.

**Table 4-12 Final Cluster Centers on State**

	Cluster		
	1	2	3
State	-1.00	-1.00	1.00
selection-references X016	0.12	-0.01	0.42
recruitment sources X3	0.44	0.48	-0.06
expense on employee Training X7	-0.32	-0.36	-0.79
appraisal method-written reports X93	0.82	0.44	-0.11
appraisal participants-peers X103	1.00	-0.68	-0.91
variable pay forms-share options X152	-0.59	-0.92	-1.00
salary level depends on individual performance X172	0.69	0.32	0.76
salary level depends on seniority X173	-0.01	0.06	-0.48
Role of Union X19	-0.103	-0.440	-0.578

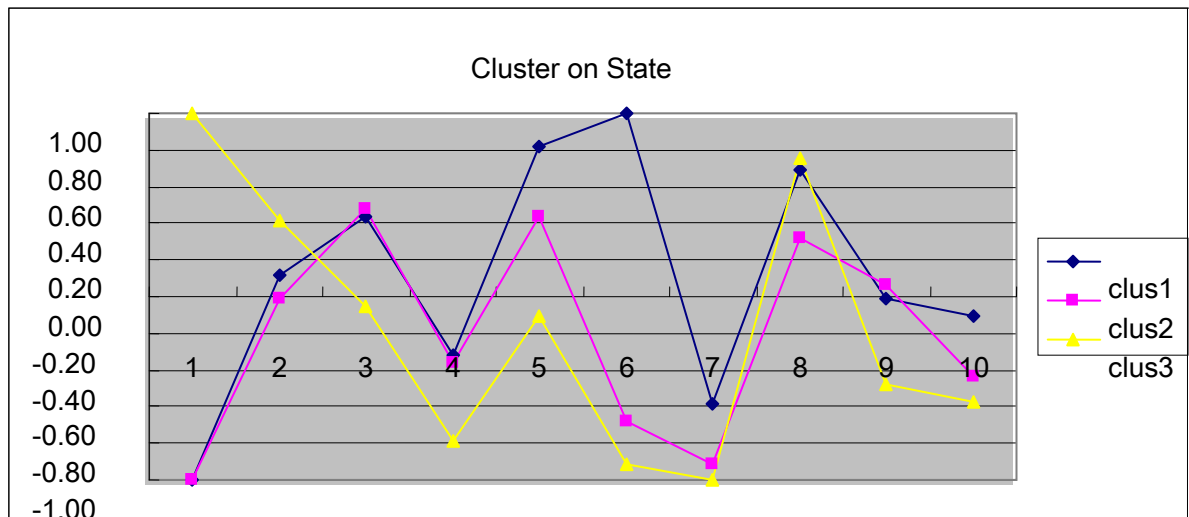
It seems that Czech firms emphasize more on Individual performance, and experience, while China more on group performance and seniority when considering the salary

Among the performance appraisal methods, Czech use less written report, more

personal interview with supervisor. Who is the performance rater, almost all Czech firms choose supervisor, hardly choose colleagues or subordinates. (See 5,6,7).

We got the final cluster centers, with the means of each cluster, we can visualize the clusters as in the following figure.

**Figure4-5 Cluster on State**



Czech cluster also has lower level of external recruitment. China has 48.2% recruit employee mainly from external, vs Czech firms 5.0%. This will be explained on the background of labour market in next part of this paper. On the role of trade union, Czech is also much lower, 62.7% response trade union has no function at all, China 30.3%. This result is also proved by correlation analysis that state does has relations with the situation of trade union. In cluster 3, 60% firms are small sized less than 200 employees, usually the small company has not union or weak union compared to large company.

China firms has two clusters, which means there is some difference within China firms as shown in the figure, in terms of performance appraisal, salary dependence on individual, and role of union. (See 5, 6,7,8,10). These two clusters have very similar distribution of cases in size, industry and ownership. Therefore the difference exclude the possible influence caused by these factors, it reflects the fact that HRM practice vary between firms despite they have same institutioanla conditions. The distance is not as obvious as with cluster 3. Look at the point of 1, 2, 3, 4 and 9, cluster 1 and 2 has joint.

We suppose that these practices are typical in China companies despite of differences in other items. If our sample has sufficient representation of the general sample in China, we can say that most of China firms recruit employees mainly from external; they invest averagely 0.51-1% of turnover on training employee; they give

consideration on seniority when decide the salary of staff.

Furthermore, we use Hierarchical cluster to get the dendrogram of the clusters. It supported the existence of three clusters and also can see which firms are in the same cluster. Combined with other features of the case, we can find more information of each cluster. See Annex 7, Dendrogram on State.

#### 4.5.2 Cluster on Industry

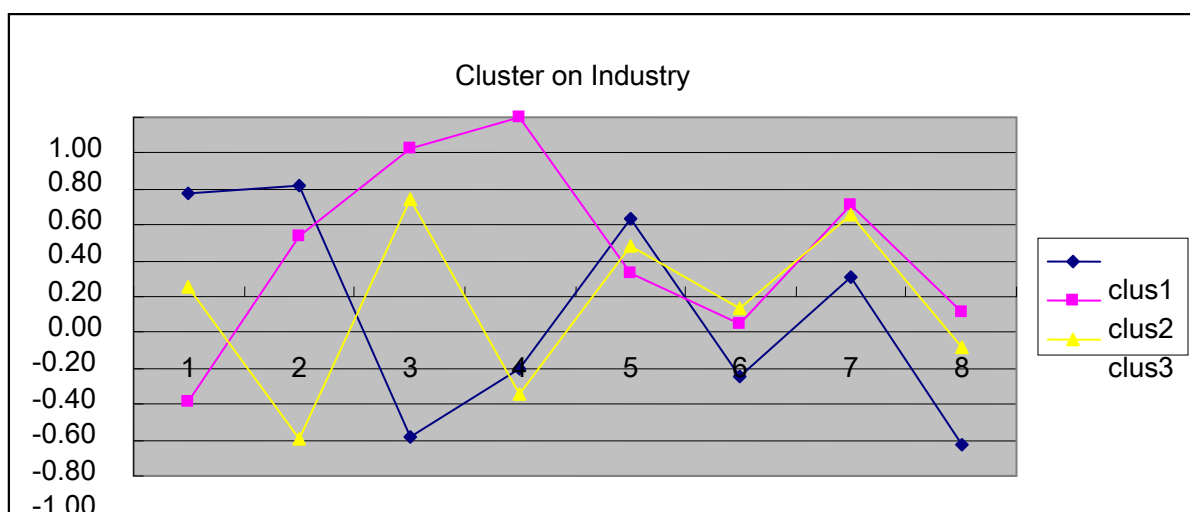
Through clustering on Industry and other 7 variables, we found three clusters. F test has shown on all the 8 variables except X131, has significant difference at the level of 0.001. (see Annex8)

The three clusters have shown different characteristics on the HRM practices in the function area of Performance appraisal, compensation, trade union. In cluster1 there is 50 firms, 27 firms in service sector, represent more likely the customs of Service industry, it has the highest level in terms of supervisor interview as appraisal method and appraisal oriented to pay.

**Table4-13 Final Cluster Centers on Industry**

	Cluster on industry		
	1	2	3
Industry Y3	0.58	-0.59	0.05
appraisal method-supervisor interview X91	0.62	0.33	-0.79
appraisal method-written reports X93	-0.78	0.82	0.54
appraisal participants-employee oneself X102	-0.41	1.00	-0.54
appraisal objective-for pay X131	0.43	0.13	0.28
salary level depends on seniority X173	-0.45	-0.16	-0.06
union membership X18	0.10	0.51	0.45
Role of Union X19	-0.824	-0.089	-0.282

**Figure4-6 cluster on industry**





It could be interpreted that their performance appraisal is relatively informal and the objective is mainly for calculating rewards to staff rather than performance improvement, a style of cost control. At the meantime, this group firms has the lowest union membership and the weakest role of union, which means that union is not important in this group. It is observed often in small firms, family runned firms and firms with high mobility. In this cluster, about 50% are small firms, which is one of features in service industry. Among the 50 cases, 39 are Czech firms, including local and foriegn ownership, therefore, we can say the charateristics in this cluster reflect the HRM practices in Czech to some degree.

Cluster 2 resemble more likely to manufacturing industry and building industry, 60% of cases in these two indsutries, the other in service industry. Except the variable of appraisal object on pay is lowest, superisior interview morderate, all others show the highest level. It is in a contrast with cluster1. The firms in cluster2 have more formal practice on performance appraisal, such as written report, self appraisal used in the process. And they have the stronger union compared to other clusters. This complies with the tradition that manufacturing industry tends to have more stronger trade union to protect the large number of labour workers' benefits. Also this cluster is exclusively China firms, with 30% small firms, 47% of large firms. This indicates that the large companies have more formal management system and practices.

#### **4.5.3 Cluster on Selection X1**

Above two clusters has reflected that there is relations between HRM practices and the insititutional factors of firms as state and sector. Is there any relation between practices? Is there any practice often binded together? To answer the question, we try to make cluster with various groups of variables, at last, we found several clusters, which has illustrated some information.

In cluster1, firms have the highest points in five items, a striking contrast with cluster 2. It has shown strong preference using application form in selection, external training and qualification traning, supervisor as the absolutly evaluator of performance, salary level more likely determined by company and individual. Peer/colleague doesn't participate in performance appraisal. The combination of these HRM practices has represented a style, as the firms in this cluster distribute in both countries, in all size companies, in all indsutries and in all ownership.

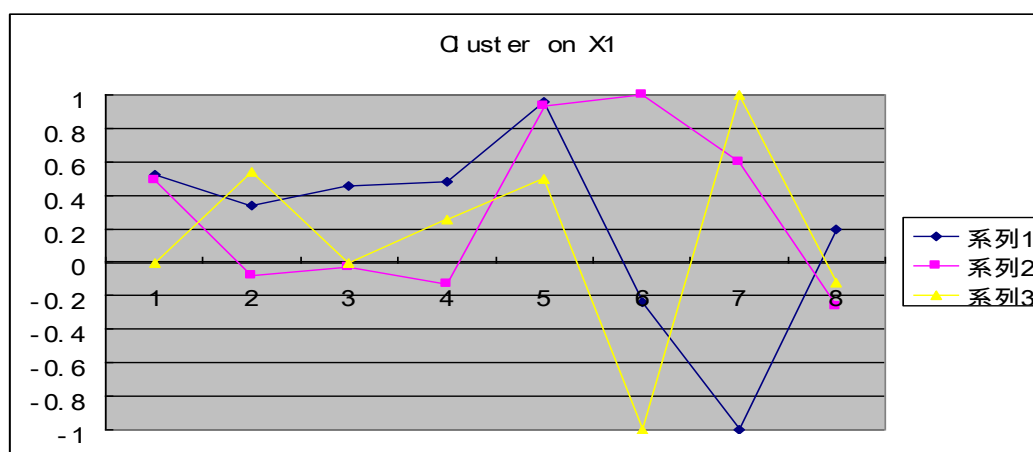
Cluster 2 has the same preference with selection method as cluster1, used less references, lower preference to external and qualification training, highest level on the formal degree of appraisal participants, for it includes supervisor, employee himself and peer in the activity, which remind us of the 360 feedback typical of American

practice. This is similar with the experience in many large company in China, they use more sources to evaluate the performance of employee in order to be fair, sometimes including major customer in service business as tele-communication and sales company. Among the 30 cases in this cluster, 28 from China, 16 firms in manufacturing and building business, 50% firms are large company. In Cluster1, large firms are less than 30%. Firms in this group determine basic salary according to industry level. See Annex9 Dendrogram on cluster X1, Cluster 1 and cluster 2 could be taken as two contrast group, they show the opposite direction except on joint point of 1 and 5, as these two practices belong to the most common practices, so the joint point doesn't affect the contrasting effect of these two clusters.

**Table4-14 Final Cluster Centers on X1**

	Cluster		
	1	2	3
selection-application form X011	0.53	0.49	0.00
selection-references X016	0.34	-0.08	0.54
training method-external training X62	0.45	-0.03	0.00
training method-qualification training X63	0.48	-0.13	0.25
appraisal participants-supervisor X101	0.96	0.93	0.50
appraisal participants-employee oneself X102	-0.24	1.00	-1.00
appraisal participants-peers X103	-1.00	0.60	1.00
the level determinate salary X14	0.20	-0.27	-0.13

**Figure 4-7 Cluster on X1**



- 1- X011 application form , 2- X016 references , 3- X62 external training  
4- X63 qualification training, 5- X101 supervisor, 6-X102 employee oneself  
7-X103 peers, 8- X14 the level determine basic pay

Cluster3 firms prefer to use references in selection rather than application form, interesting to see in the appraisal, they use supervisor less than other two clusters,

never use employee oneself evaluation, however they use peer evaluation. If it could be interpreted that these firms has rather flat organization structure, advocating team work, so they use peer evaluation to stress the importance of cooperation between colleagues. This could be seen in high-tech and some morden consultancy companies. This cluster includes 10 China firms, 1 Czech firm; 50% are small business.

#### 4.5.4 Cluster on Performance Appraisal X9

Within all cases, using X9 and other variables, we find three clusters with significant difference. Dendrogram of Cluster X9 , see Annex10.

The variables in these clusters have covered more HRM area than other three cluster analysis. The figure has not expressed itself which cluster is higher, which is lower in gernerel trend. But reviewing the degree of formal HRM practice, we can distinguish groups. In order to explicit the relation of variable's value to the degree of formal/informal, we make a table. Of course, only by a few variables, it is not sufficient to deduct the degree of formal or informal on all the HRM practices, but on a specific item of practice, we can do it.

Figure 4-8 Cluster on X9

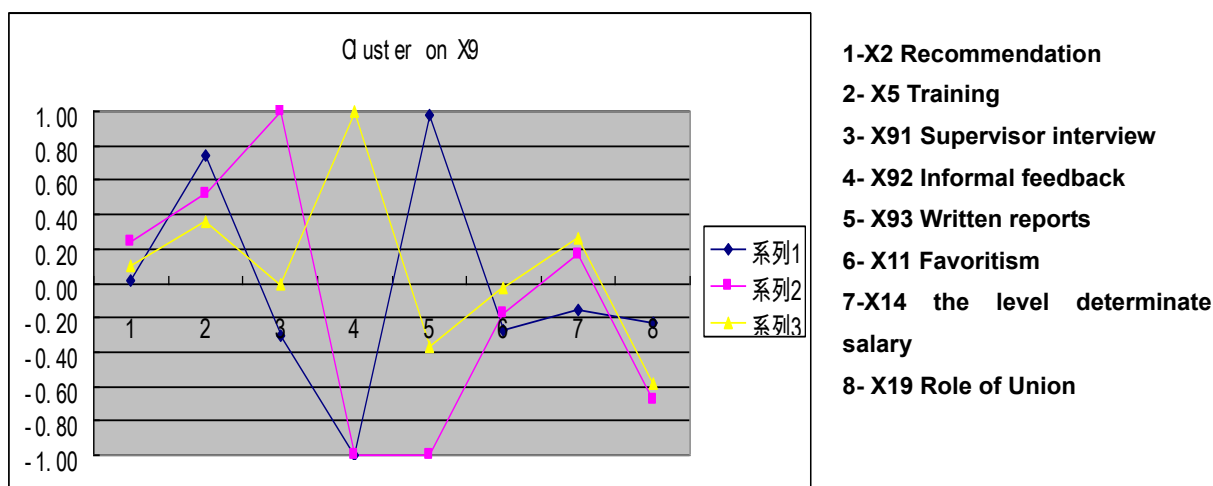


Table4-15 Final Cluster Centers on X9

	Cluster		
	1	2	3
importance of Recommendation X2	0.01	0.24	0.11
importance of Training X5	0.74	0.51	0.36
appraisal method-supervisor interview X91	-0.30	1.00	0.00
appraisal method-informal feedback X92	-1.00	-1.00	1.00
appraisal method-written reports X93	0.98	-1.00	-0.37
favoritism X11	-0.27	-0.18	-0.03
the level determinate salary X14	-0.15	0.17	0.26
Role of Union X19	-0.234	-0.681	-0.579

In this case, the variable X5 refer to the importance of training, the higher value means the more important of training, and which means the more formal HRM in this function area, the same with X93, the use of written report as appraisal method. The importance of recommendation(X2)refer to whether the recommendation is important during selection of candidates, the higher value means the more important of recommendation, we can say this practice is informal compared with formal selection as appliction form, interview, psychometric test and assessment centre. The same with variables like informal appraisal (X92) and favoritism in appraisal (X11).

**Table 4- 16 Formal /informal practices**

	C1	C3	
X5	0.74	0.36	the higher, the formal
X93	0.98	-0.37	
X2	0.01	0.11	the lower, the formal
X92	-1.00	1	
X11	-0.27	-0.03	

Looking at the line of cluster1 & cluster3, we may say that Cluster 1 is more formal compared to cluster 3, in all these five practices. (see point 1,2,4,5,6). Furthermore, firms in cluster1, the basic pay level determine at industry level, while frims in cluster 3 more turn to company level or individual level. Cluster 1 has highest value regarding to role of trade union, cluster3 the lowest. It seems that in firms with strong unions, tend to have more formal Human resource management.

The cluster of X9 has covered almost all the cases in our survey(166 out of 170), it is highly representative of the surveyed firms.Now let us look at the cases infromations in each cluster. Majority of Cluster1 is China firms; 50% large firms, 25% middle-sized firms. 70% local firms, scattered in all industries, manufacturing made up of 36%, service sector made up of 30%.

**Table 4-17 The composition of clusters**

	State		Size				ownership			Industry				
	CN	CR	1-50	51-200	201-500	>500	L	J.	F.	M.	Bld.	T.	IT	Ser.
<b>C1 89</b>	74	15	7	17	23	41	66	7	16	32	19	4	8	26
<b>C2 50</b>	16	34	18	17	4	10	33	3	13	19	2	0	3	25
<b>C3 27</b>	18	9	7	13	2	5	22	3	2	7	4	3	0	13
<b>total</b>	108	58	32	47	29	56	121	13	31	58	25	7	11	64

If there is any significance between the distribution of cluster1 and cluster3, it is size. In cluster3, 74% are small firms, 18% large firms; the secondly important difference lies in the sector, Cluster3 has 50% firms in service industry higher than cluster1. If it is possible to say that large firms have more formal HRM practices than small firms. In manufacturing business, have more formal HRM practices than service business. In any case, limited to our survey, we can get this results. But if it is applicable to more case, depends on further study with more controlled experiment, excluding other factors' influence.

Cluster2 is between cluster 1 and 3. in terms of X5, X93, X2 and X11, it is more informal than Cluster1, even more than Cluster3. But with other two indicators, there is no obvious difference. Compared all three clusters, cluster1 is the most formal pattern. In cluster 2, more Czech firms; 70% small firms and 20% large firms; foreign firms has higher percentage than other clusters; service has higher percentage too.

From the results of Clusters, we found that the variables in the part of Performance appraisal and trade union are included in almost all the clusters. We can suppose that the practices on Performance appraisal and Trade union are the most dependent indicators, either dependent on State, Size, industry, and also on the other HRM practices. This implicates that these variables need more in-depth review so as to find what is the relation in more details.

We found that there are two patterns of HRM practice in our analysis, formal and informal. The larger firms seem have more formal HRM practices and stronger union than small firms.

State, Size, Industry and Ownership have relationship with HRM practices in different dimensions and in different degree. More HRM practices differ across States at a significant level; the Size has obvious correlations with trade union indicators. Industry difference mainly in the area of training and appraisal method; ownership has more influence on compensation practices.

Another finding from the cluster process, Czech firms are more closed to each other in terms of distance, this is supported by descriptive analysis in that Czech firms has answers more concentrated than China counterpart. It means Czech firms has more convergence in the area of HRM , while China has relatively more diversity. Perhaps this could be explained by the more complex environment in China, including the diversity of ownership structure, labour market, region difference etc.

What we have found in the cluster has not covered all essential practices, therefore we cannot say it represent a certain pattern of HRM. As the questions in our survey have different type of measure, and some are single choice, some multiple choices, this somehow affects the effect of clustering. In the future study, we will design a

survey more appropriate to explore the possible HRM pattern in Czech and China organizations.

#### **4.6 Further Cluster Analysis on “State” and “Size”**

As found in previous analysis, that the most significant difference of HRM practices have relations with the variables “ STATE” and “SIZE” of firm surveyed. But in previous analysis, these two variables were not isolated. In further investigation on the difference of HRM between states, on the difference of HRM between sizes, we need to make controlled experiments so as to examine the influence of one specific variables given the other factor controlled.

The first group of experiments is to control the variable of SIZE, in that within the firms of same size we compare between China and Czech. This group has two experiments.

- **ANALYZING SMALL FIRMS OF CHINA AND CZECH REPUBLIC**
- **ANALYZING LARGE FIRMS OF CHINA AND CZECH REPUBLIC**

The second group of experiments is to control the variable of STATE, in that within the same country, we compare between small size firms and large size firms. (the employee number less than 200 is small size, more than 200 is large size). This group has two experiments:

- **ANALYZING SMALL FIRMS OF CHINA AND CZECH REPUBLIC**
- **ANALYZING LARGE FIRMS OF CHINA AND CZECH REPUBLIC**

Through hierarchical cluster analysis to find the numbers of suitable clusters, then we use K-means to identify these clusters and number of cases in each cluster, at last we use Crosstabs analysis by each cluster membership variable to know more information of each cluster, such as how many local firms, how many are manufacturing industry. Given these details, we can compare the similarities and difference between each cluster, thereafter to summary the characteristics of HRM practices in small firms group, in large firms group, in China group and in Czech group respectively. Based on these findings, practical recommendation could be put forward to China companies and Czech companies.

##### **4.6.1 Comparing small firms of China and Czech (CNS-CRS)**

In this group, size is taken as control variable and the difference of a group of HRM practices will be examined between small size firms of China and Czech.

By hierarchical cluster analysis, we have found three clusters in both China and Czech small firms. See Annex 11, Annex 13, the Dendrogram output. Put 3 as the

number of cluster, we make further analysis by K-means cluster method, thus we can compare the cluster in details. see Figure 4-9, three figures. At first, we will compare the similarity and differences in each group.

**Table 4-18 Final Cluster Centers CHINA SMALL**

	Cluster		
	1	2	3
importance of Recommendation X2	.00	-.75	.03
recruitment sources X3	-.42	.75	.91
expense on management training X8	-.54	-1.00	-.22
Favoritism X11	-.23	-.25	-.44
salary level depends on group objectives X171	.46	.13	.56
salary level depends on seniority X173	-.04	-.38	.00
union membership X18	.63	.28	.21
Role of Union X19	-.231	-1.000	-.469

**Table 4-19 Final Cluster Centers CZECH SMALL**

	Cluster		
	1	2	3
importance of Recommendation	.37	.64	.31
recruitment sources	.50	-.46	.44
expense on management training	-.63	-.57	-.44
favoritism	-.17	.00	.56
salary level depends on group objectives	.20	.79	-.06
salary level depends on seniority	-.30	-.64	-.81
union membership	.02	.04	.00
Role of Union	-.967	-.821	-1.000

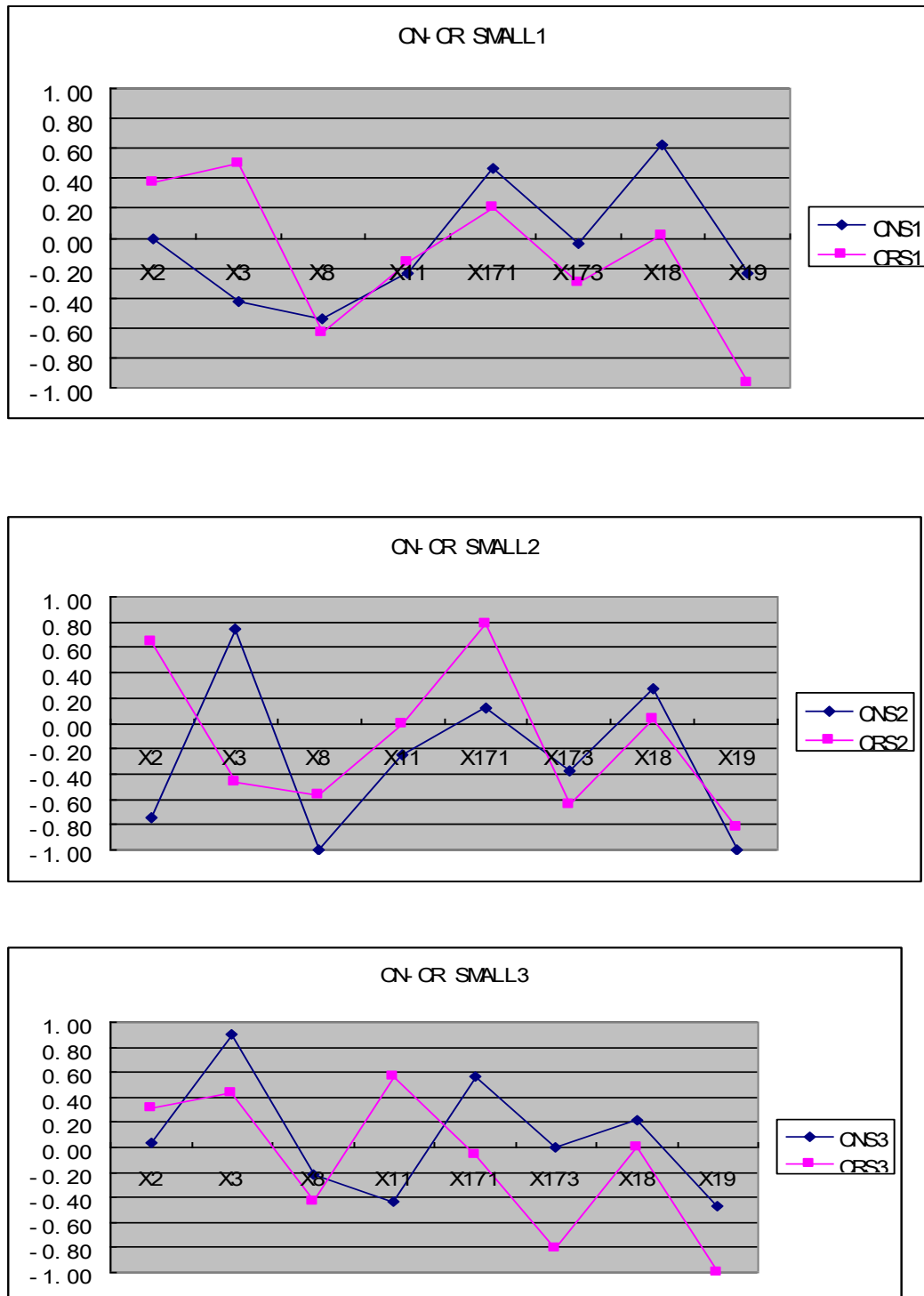
**Number of Cases Cluster CN**

CN	1	13.000
Cluster	2	8.000
	3	16.000
Valid		37.000
Missing		5.000

**Number of Cases Cluster CR**

CR	1	15.000
Cluster	2	14.000
	3	8.000
Valid		37.000
Missing		3.000

**Figure 4-9 China and Czech Small firms comparison**



China small firms has significant diversity among themselves, therefore, the three groups has shown much more difference than consistency. We try to make a summary according to majority of cases, so as to identify the common characteristics among the small firms and the major national differences.

**Small firms' common feature in both countries:** X8 in low level, expense on management training is low.



**Table 4-20 Similarity and difference between China and Czech small firms**

	<b>similarities</b>	<b>difference</b>	<b>Case</b>
<b>CNS-CRS</b>	<b>X8 , X11,</b>	<b>X2CR&gt;CN,X3*CR&gt;CN , X171 CN&gt;CR, X173 CN&gt;CR, X19*CN&gt;CR,X18*CN&gt;CR</b>	<b>13 CN, 15 CR</b>
	<b>X11,X18,X19 LOW</b>	<b>X2* CR&gt;CN, X3*CN&gt;CR ,X8 CR&gt;CN X171*CR&gt;CN, X173 CN&gt;CR</b>	<b>8CN, 14 CR</b>
	<b>X2,X8,X18 LOW</b>	<b>X3* CN&gt;CR, X11*CR&gt;CN, X171*CN&gt;CR, X173*CN&gt;CR,X19*CN&gt;CR</b>	<b>16CN, 8 CR</b>
	<b>small firms' common feature</b>	<b>Small firms' national difference</b>	

***Small firms' major national difference:***

X2 CR>CN, X11 CR>CN, X173 CN>CR, X18 CN>CR, X19 CN>CR, these are similar with previous analysis findings on national differences, see table5. It means that Czech small firms give more importance to recommendation as a way of recruitment; favoritism in performance appraisal is more common. China small firms concerned more age/seniority of employee when deciding the pay level, trade union membership and role of union is higher than their Czech counterparts.

Exceptions: X3 (recruitment sources), two groups CN>CR, one group CR>CN; X171(salary depends on group achievements), two groups CN>CR, one group CR>CN.

This means that for these two HRM practices, it depend not only on national factor and contingent factor as size, but also on other organizational factor such as strategies and nature of business. For example, for cost-reduction strategy, or defenders, [72][76] they may less concerned about recruiting new employees externally, and more concerned about developing current employee to learn new skills. some business has particularly required group/team work as automobile manufacturing, equipment manufacturing, and they will decide the pay level, performance appraisal based on achievement of group objectives.

#### **4.6.2 Comparing Large firms of China and Czech (CNL-CRL)**

In this group, size is taken as control variable and the difference of a group of HRM practices will be examined between large size firms of China and Czech Republic. The process is similar with the previous group. The Dendrogram of clusters, see Annex 12, Annex 14.

**Large firms' common feature in both countries:** Large firms are similar in terms of

X11, X171 and X18. Favoritism is not important, group achievement is given high importance, trade union membership is quite high (0.4-0.6).

**Large firms' major national difference:** X2 CR>CN, X3\* CN>CR, X8 CN>CR, these are in line with previous findings. Czech large firms concerned more recommendation. China large firms recruit more externally than Czech large firms, expense on management training is higher in percentage.

**Table 4-21 Final Cluster Centers on CN LARGE      Table4-22 Final Cluster Centers on CR LARGE**

	Cluster		
	1	2	3
importance of Recommendation	-.14	-.13	.05
recruitment sources	.46	.88	.18
Expense on management	.56	-.58	-.78
favoritism	-.30	-.29	-.23
salary level on group objectives	.78	.54	.68
Salary level on seniority	.16	.58	-.43
union membership	.59	.28	.56
Role of Union	.100	-.375	-.175

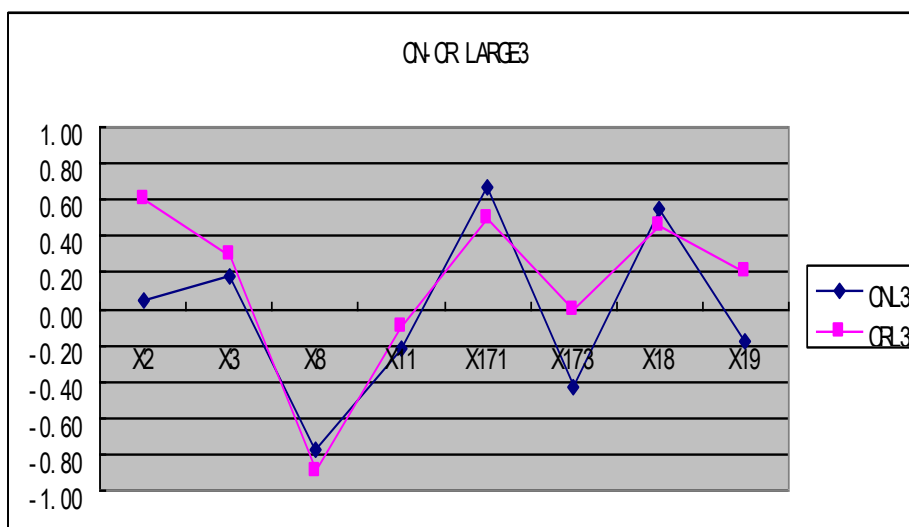
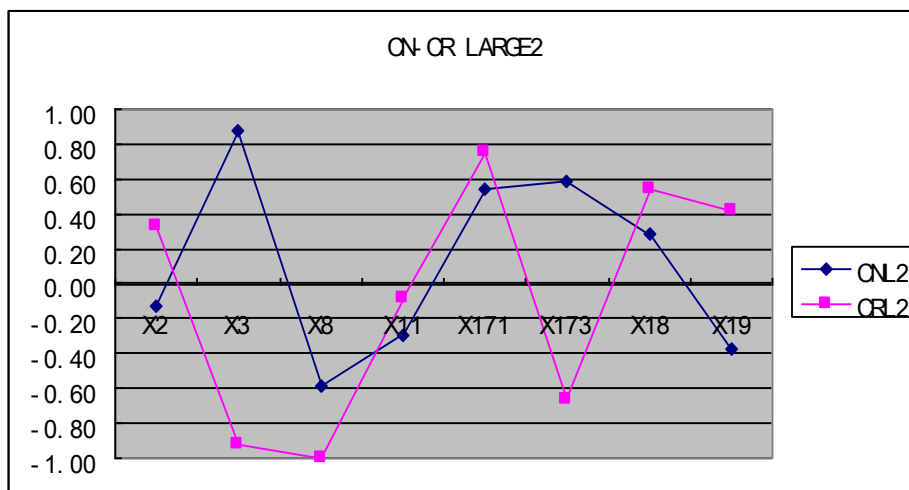
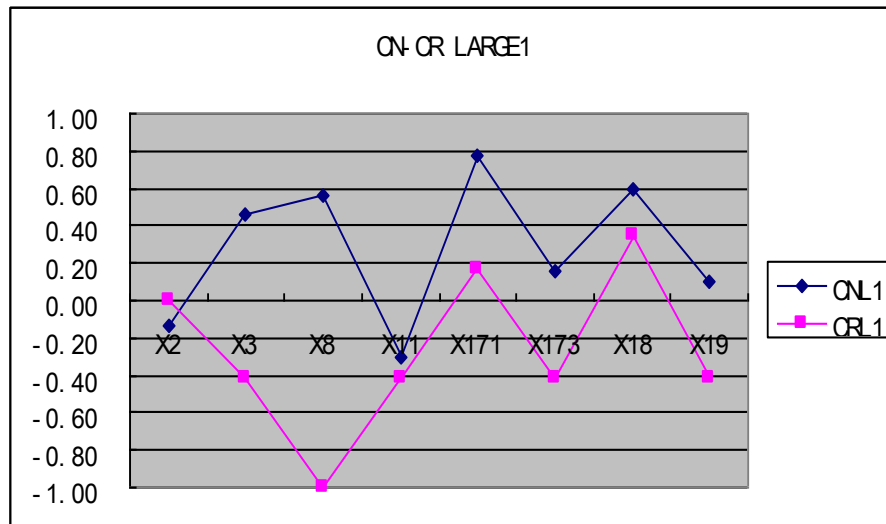
	Cluster		
	1	2	3
importance of Recommendation	.00	.33	.60
recruitment sources	-.42	-.92	.30
expense on management training	-1.00	-1.00	-.90
favoritism	-.42	-.08	-.10
salary level on group objectives	.17	.75	.50
salary level on seniority	-.42	-.67	.00
union membership	.35	.54	.46
Role of Union	-.417	.417	.200

**Number of Cases in Cluster CN LARGE      Number of Cases in Cluster CR LARGE**

Cluster	1	25.000
	2	12.000
	3	20.000
Valid		57.000
Missing		9.000

Cluster	1	6.000
	2	6.000
	3	5.000
Valid		17.000
Missing		3.000

**Figure 4-10 China and Czech large firms comparison**



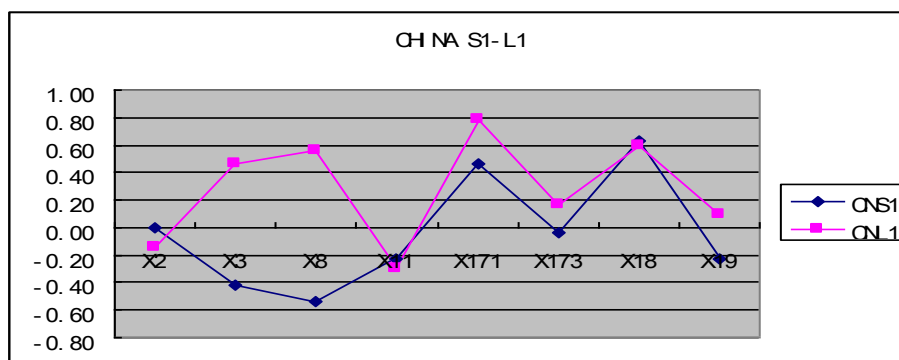
**Table 4-23 Similarity and difference between China and Czech Large firms**

	similarities	Differences	
CNL-CRL	Group1.X2,X11,	X3* CN>CR, X8*CN>CR, X171*,X173*CN>CR, X18 CN>CR, X19*CN>CR	25CN- 6 CR
	Group2 X11,X171,	X2 CR>CN, X3*CN>CR,X8 CN>CR,X173*CN>CR, X18 CR>CN, X19*CR>CN	12CN-6CR
	Group3. X3,X8,X11,X171,X18	X2 CR>CN,X173CR>CN , X19 CR>CN,	20 CN-5CR, CHINA FOREIGN FIRM
	LARGE F.	COUNTRY DIFF	

Exceptions: X173, two group CN>CR, one group CR>CN, X19 in cluster 2&3, CR>CN, in cluster1 CN>CR. this is the first time, occurred that Czech firms higher in terms of X19, the role of union. Looking into the composition of cluster 2 and 3, we see the Joint ventures and foreign companies made up more than half. Perhaps that could explain why the role of union comparison varies from other analysis. As we know, ownership is another contingent variables which has relations with HRM practices, It indicate that HRM practices is an outcome of interplay of many complex factors and variables. As well, it could be influenced by other organization level factors, like the age, the type of technology, presence of a formal HR department, strategy, union status and etc. All these variables as determinant factors of HRM policies and practices.

#### 4.6.3 Comparing small and large firms of China

**Figure 4-11 China small and large firms comparison**



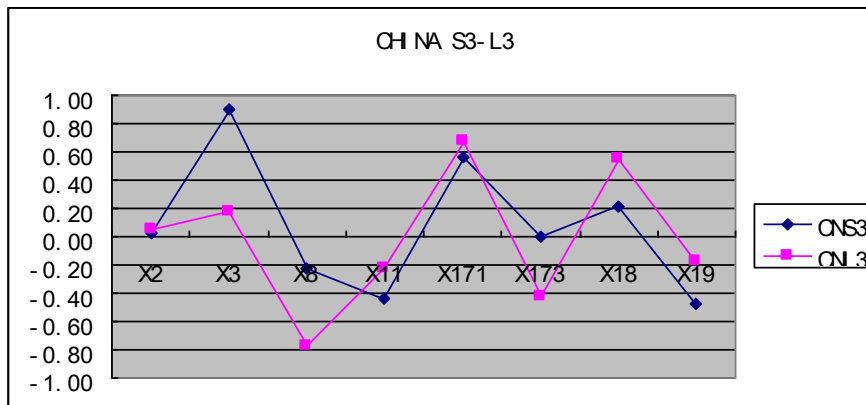
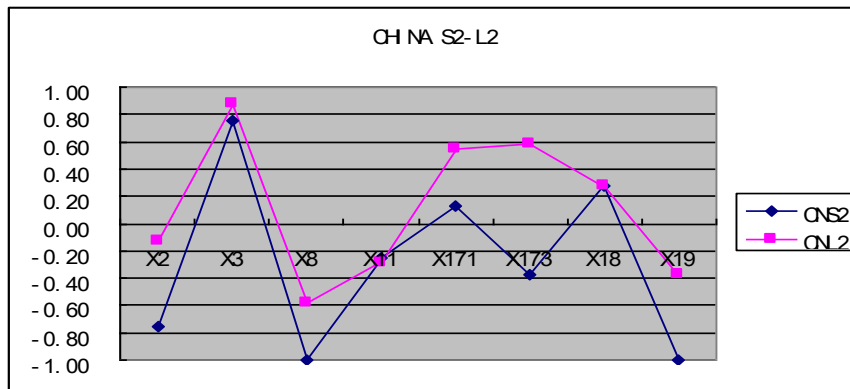


Table 4-24 Similarity and difference between small and large firms of China

	Similarities	Differences	
CNS-CNL	Group1.X2,X11,X173,X18,X171	X3*CNL>CNS, X8*L>S, X19 L>S	13S-25L
	Group2.X3,X11,X18	X2*L>S, X8 L>S,X171 L>S,X173*L>S,X19*L>S	8S-12L,
	Group3.X2,X11,X171,	X3*S>L, X8,X173 S>L, X18,X19 L>S	16S-20L
	CHINA FEATURES	SIZE DIFF.	

In the first group, we take size as control variable, examine into the cross-national difference. In this group, we take state as control variable, examine into the difference cross size.

**China firms' common feature:** China firms are similar in terms of X2, X11, X18. Recommendation is not important in recruitment and selection; favoritism is not common in performance appraisal; union membership is from 0.3 to 0.6.

**Major difference cross size:** X8 L>S, X171 L>S, X19\*L>S, these are in line with previous findings. Compared to small firms, large firms has invested more on management training; pay more attention on group objectives achievement; and trade union is regarded as more important.

**Exception:** X3 different in each cluster,  $L > S$ , Similar or  $S > L$ . the extent of external recruitment could be determined by national factor, by labor market, by business market environment and firm level strategies. That is why it represents more diversity.

X173 different in each cluster, similar,  $L > S$  or  $S > L$ . this is conflict with the One-Way Anova analysis on size, which has found the larger firms has higher level in X173. once again, this happened in the cluster 3 of China large group, half of which are joint ventures and foreign firms, while the counterpart has 14 local firms and two foreign firms. It seems ownership does have influence on HRM practice, interact with other contingent variables. Also, the importance of seniority may have relation to the age of organization, to the organization culture.

### **Recommendations to China firms:**

It is shown from the results that China firms has disadvantage in several HRM practices compared to Czech firms. Reference/recommendation by previous employer or others credentials is one way of informing the judgment of managers to make selection decision. China firms use much less this method than Czech. This method could help to confirm facts relevant to working experience presented by candidates, and also help to get reference about the character of candidates if possible.

China firms rely on application form and not well structured interview, which is not enough to get sufficient information from the candidate especially when the candidate present false and faked application form. Therefore, it is suggested for China firms to use reference as an approach to support their selection process. When selecting person for an important position, more methods of selection are necessary to use so as to ensure making a correct decision.

Another suggestion is for balance the external and internal recruitment. China firms now mainly use recruitment from external, labour market or other sources. Despite its advantage, it has negative effect on the morale of present employee. The extent of external/internal recruitment should be integrated with the strategy of organization, and compatible to their policy on promotion and talent improvement. The HR dept. should make recruitment plan according to the nature and requirement of vacancy position. i.e. for chief or manager's position, if there is any possibility to fill it through promotion from current employees, it is a very good motivation for staff. And benefit to strengthen the healthy organization culture. i.e. for some technician position, if some employee have the potential, but only need some expertise training, why not? It will encourage employee to learn and to be good. Therefore, recruitment is not an independent matter, it should be connected with other HRM function, to support each other. China small firm, they have lower training expense than large firms, less

importance on group achievement, and less importance of trade union.

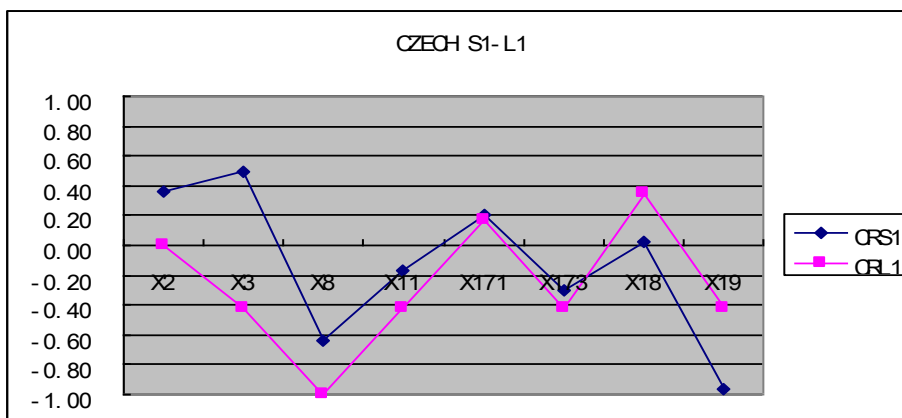
In order to get long-term development and increase their competitiveness in the market, they have to pay more concern to training their own employee, lack of financial fund should not be an excuse. Small company focus on short-run performance like the sales increase month by month, turnover increase season by season, therefore, they use some performance related pay to stimulate individuals, esp. salesmen, or piece work pay for workers. However, for the well-being of organization, for the development of a healthy and cooperative organization culture, they should also take care of group work, team building.

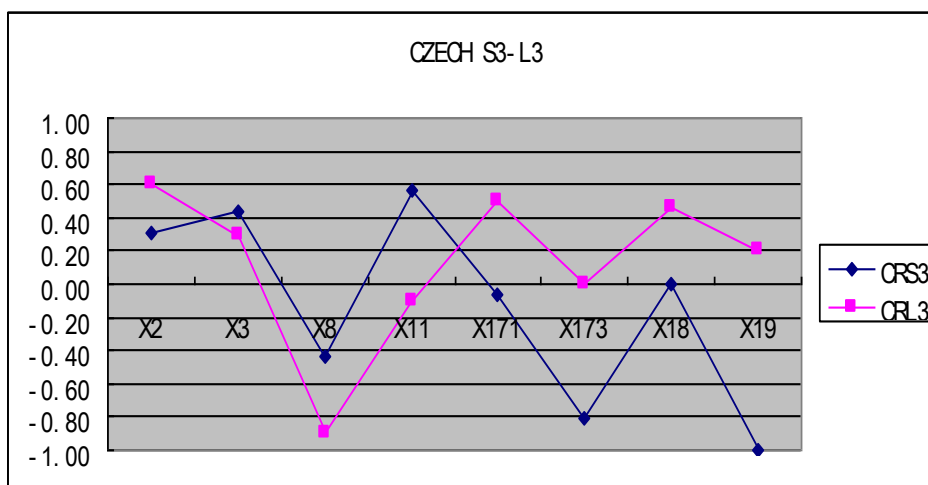
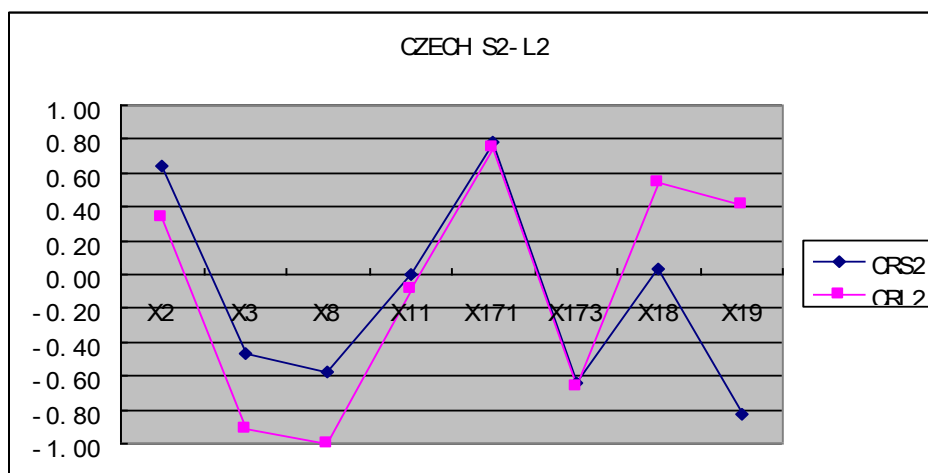
#### 4.6.4 Comparing Small and Large firms of the Czech Republic(CRS-CRL)

In the first two groups which represent majority of Czech firms, are very closed in terms of X2, X11, X171, X173. It could be thought that most Czech firms are similar in these aspects of practices, say: quite important of recommendation to employee selection; favoritism in appraisal is from a little important to moderate; group achievements are quite important on salary; seniority is not important on salary.

But in the third group, two clusters vary in most items except X2 and X3. in this small cluster, X3 and X11 is particularly high, recruitment most externally and favoritism in performance appraisal is quite important. On other variables, it is low. Life-cycle stage of organization is also one of contingent variables shown to determine HRM practices. [53] Perhaps, these are new established company and growing up, more emphasis on recruiting new employee from labor market, and increasing sales. Group work, trade union is not important for them.

Figure 4-12 Czech small and large firms comparison





**Table 4-25 Similarity and difference between small and large firms of Czech**

	similarities	Differences	
<b>CRS-CRL</b>	X2,X11,X171,X173	X8 S>L, X3*S>L, X18 L>S,X19 L>S	15S-6L
	X2,X11,X171,X173	X3,X8 S>L, X18*,X19*L>S	14S-6L
	X2,X3	X8*,X11*S>L, X171L>S,S173*L>S,X18 L>S, X19*L>S	8S-5L,(foreign)
	CZECH FEA.	SIZE DIFF.	

**Major difference cross size:**

X18\* L>S, X19\*L>S, on trade union membership and role of union, large firms are higher than small firms, these are accordingly with previous findings. As for recruitment source and management training, small firms are higher than their large partners, X3 S>L, X8 S>L. In the small group of 13 firms, X11\*S>L, X171 L>S, X173\* L>S. In this survey, Czech firms have present more conformity in comparison to China firms.



### **Recommendation to Czech firms:**

Czech firms generally has much higher level of internal recruitment than China firms. While internal recruitment has benefits like improved morale, commitment and security among employees, lower exposure to market forces. however, the downside can be high levels of political behavior associated with advancement, informal 'glass ceilings', and structural shocks when major market and technological changes happened. Therefore, Czech firms should also make specific recruitment planning which compatible to their organization strategy and talent improvement policies, as well according to different position. This will bring more efficiency and benefit from recruitment to organization.

For small company, trade union seems has weak role. Perhaps they should increase the status of trade union in their organization so as to protect their interests through collective bargaining and negotiation. It could be seen that the results from this analysis differ from that analysis solely on STATE either from that solely on SIZE, it proves that size of organization has influence on HRM practice, but the effect seems not always the same. Through comparing the same size firms in Czech and China, we found that they still have a lot of differences. It seems that national factors and size are interacted as they determine HRM practices.

Size is one of contingent variables shown to determine HRM policies and practices [27]. Other contingent variables include ownership, age of organization, life cycle, union status, structure of organization etc. These contingent variable are not independent of each other and are shaped by the national factors as national, culture, institutions and business environment and industrial sector, in addition, these are the main mediating factors on which the influence of national factors have been seen 'to depend'[17].

In this cluster analysis, the cases are mostly included which means the result can represent the surveyed companies well. Our comparison has illustrated the existence of moderator effects , the influence of national factor on HRM practices varies with the size of organization. Comparison of China and Czech large companies has difference from China and Czech small companies. Although we have not tested all contingent factors, but from this one we can see the complex interaction between national factors and contingent variables, which increased the difficulties to cross-national comparative HRM studies in methodology.

In the future research, more factors should be included into survey, like strategy, life-cycle stage of organization, market characteristics and so on.

## **5 Comparison of HRM Practices Between Chinese and Czech Firms**

In the part of methodology, the results of survey have been obtained on HRM practice in Czech and China firms. The main differences were identified in respective of the following area: recruitment and selection; training and development; performance appraisal; compensation and trade union.

This part will focus on explaining the possible causes leading to these differences within the context of each country, incorporating a range of contextual factors as culture, economy, ownership structure, labor market and legislation of employment etc. which have been discussed in the previous part of this paper. The theory and principles of comparative HRM will be applied into our discussion.

While our analysis mostly is based on our survey, several other survey sources such as Cranet project also is used to supplement and contrast with our results. At the same time, hypotheses will be testified, Hofstede's model of culture values will also be tested whether to be applicable in this case.

### **5.1 HR Function**

This area is not included in our survey, however, in order to get a holistic picture of HRM practices, it is important for us to know the importance of and the degree of formality of HR function in an organization, therefore we add this part into our comparison based on observation and available information from other sources.

While every organization has realized that employees are a potentially creative element and esp. high potential employees and special talents represent a unique source of competitiveness and long-term successful performance, the employees could be only "exploited" fully through appropriate professional personnel management. This depends on the professionalism, recognition and status of HR function. The role of HR department: [\[102\]](#)

- Employee advocate
- Human capital developer
- Functional experts
- Strategic partner
- HR leader

We examine the HR function from the following aspects.

#### **5.1.1 The Position of the HR Function in Organization**

According to Cranet survey in 1998, about 96% of Czech companies has HRM

department during 1990s, since then the proportion has been relatively constant. [60]. In China, most of organization has HRM dept. small firms may have a HR manager within Administrative & Personnel management dept.

From a widespread survey of HRs' situation in China, [95] it has shown that:

Only 33% HR think they get sufficient resources to do their jobs;

Less than 50% HR agree that their job get support and appreciation from colleagues ;  
Less than 40% HR are satisfied with current job; Less than 25% HR answer yes when asked if their income can pay off their efforts.

Many CEO acclaimed that HR is strategic partner in organization, CHO belong to decision maker level, nonetheless, HR's working have not been recognized as much as expected. They are tenderly to be regarded as a center of cost.

On the other side, 60% HR mean they will keep this profession though unsatisfied sometimes. Only positive information is that more than half of HR responds they could balance working and life.

From our long-term observation and recent interview with firms, in China, it's fashionable for all leaders either from supervisor department, or from enterprises emphasize the importance of talents and of HRM, and advocate "human resource first", but in reality, HR dept. and HR manager has lower position than other dept. as marketing and sales dept. financial dept. and R&D dept. Because it is hard to see the instant effects and role of HR jobs related to business growth or financial performance.

The HR manager included in the board of director in more than 60% Czech organizations, which is higher than average for EU countries. Does it mean that the HR function get sufficient emphasis really? There is a substantial difference between rhetoric and practice. This similar phenomenon in China and Czech maybe partially attributed to the short time development of HRM in transition countries like Czech and China, and the over centralized style of personnel management tradition in the long era before transformation. It is difficult to change their conception and behavior in a short time.

### **5.1.2 The Competence of HR Manager and Staff**

In most European countries, the HR Director usually is an HR specialist coming from outside the organization. This is most pronounced in Anglo-Saxon countries like the USA, the UK, and Australia which has more than half of companies has HR specialists recruited from outside. Czech Republic is one of exceptions, together with Denmark, Finland, Austria. In Czech Republic, the HR Director is more likely to be a

non-specialist from within the organization.

According to a survey, only 28% organizations responded that their HR director recruited from HR specialist outside organization; 28% within personnel department; 34% from non-specialist within organization [28]. This is supported by the observation that in many Czech companies, it is technology specialists come to the position of HR managers, and marketing manager.

In Czech Republic, technology has been emphasized in higher education systems, the supply of technicians graduates is more than management graduates before early 1990s. This situation is changing, but it still need time to educate and develop management specialists.

Although there is no comparable data with China, as far as we know, most HR managers are not specialists in human resource management. One of reason is that till after 2002, there are graduates from HRM specialization, with small amount. The vocation of professional manager has not emerged until recent year. Usually, HR managers come from the former personnel dept; or from other department with good communication and organization capability; or some people who has good relationship with the director of the enterprises. In state-owned enterprises, this is particularly obvious. Even some organizations have HR graduates, they are too young and lack of enough experiences to become manager.

### **5.1.3 The Responsibility of Line Managers**

One of the key differences between HRM and personnel administration is that the responsibility is placed on line managers for the management of their people. This could be seen from particular emphasis on line manager's role in HRM textbooks of US. All around the world, it seems that it is common for HR and the line to share the responsibility for routine human resource management practices.

There is an increasing responsibility of line managers in Czech companies, particularly outstanding in the function area of recruitment and selection, pay and benefits, even in industrial relations. In most Czech companies, line manager with HR dept. shared the responsibility for recruitment and selection; in 35% companies, even line management dominate the responsibilities. In the case of Pay and Benefits, some organizations line responsible assisted by HR, while in others it is the other way round. In the case of training, in 50% organizations[28], it is HR to be responsible for training with the assistance of the line, which is common in Europe.

Industrial Relations, in contrast with all the other HR functions examined, is often seen as the primary responsibility of HR alone. However, in 45% of Czech firms, line managers responsible assisted by HR dept.[28]. It seems that line managers in Czech

companies has taken very important responsibilities in managing employees.

This is also could be seen from our survey. In recruitment and selection, most of Czech and China companies choose interview as the major selection method, the interviewer is mainly from line managers, or assisted by HRs. 100% answers that supervisor as the first participants to make performance appraisal of employee; 81.7% of firms take supervisor interview as the most used method of appraisal.

In China companies, HR department is mainly responsible for stimulating HR policies and planning and provide consultation. More specific job related to employee management actually left to line managers, or co-work with HRs, this is particularly prominent in large companies, and in manufacturing factories which has very different units with different distribution of work. Line manager or supervisors take in charge of the management work, a large part of them related to employee, attendance, on-job training, regular performance appraisal, decision on bonus (salary is determined by HR dept.), and promotion suggestion, and selection of new employee (or with HR manager). So line manager play more and more important role in HRM, the co-ordination of HR and line manager is a key issue in practice.

Since late 1990s, HRM reform has deepened systemically, and HRM has received more and more attention and emphasis from State. The function of HR department is gradually transforming from traditional administration personnel management to strategic human resource management.[\[109\]](#). So it means China HRs has not yet become Strategic partner of organization, it has a long way to go.

## **5.2 Recruitment and Selection**

The importance now placed on the role of human resources in developing sustained competitive advantage ensure that recruitment and selection is regarded as a core element of an organization's resourcing activity and part of a wider strategic approach to staffing [\[25\]](#). As China and Czech has undergone drastic transformation and confronted increasing competition caused by FDI and globalization trend, the ongoing search for competitiveness, the development of the knowledge-based economy and skills shortages make recruitment and selection even more critical for enterprises than other developed countries.

Recruitment has two main issues to consider. One is internal or external labour market; another one is recruitment methods such as advertising, consultant agency, internet recruitment, head hunter, word of mouth and etc.

In our survey, we found Czech and China varies in their recruitment sources. 21.67% Czech firms recruit mostly internal, much higher than China, on the other end, 48.62% China firms mostly external recruit, much higher than Czech. Why Czech firms prefer

internal recruitment and China firms prefer external?

**Table 5-1 Recruitment in Czech and China firms (per cent)**

	Czech	China
mostly internal	21.67	2.75
more internal	10.00	12.84
balance	25.00	23.85
more external	38.33	11.93
mostly external	5.00	48.62
Total	100.00	100.00

We suppose the following influences lead to the difference.

**(1) The influence of labor market.**

There has increasing stagnation and diminishing market flexibility in Czech labor market, long-term unemployment and labor market rigidities exists in the post-recession period. Employers realized that suitable workforce, esp. high potential talents isn't easily available on local markets. Together with employer's social responsibility contribute to HR policies that prefer internal labour markets.

In China, the labor market is characterized by over-supply, which ensures a very large amount of labor force as the sources of recruitment. And labor market is becoming more free and of higher mobility. Therefore, it is rather easier for employers to recruit from the large labor market. By means of various approach and services as advertising, recruitment fair, internet recruitment.

**(2) The consideration of morale and commitment.**

Internal recruitment has many advantages as improved morale, commitment and security among employees, more accurate assessment of competencies. Czech employers emphasize these more than China ones. External recruitment will influence the motivation of former employee, especially when a management position is filled by a new employee. Nevertheless, external source can bring new blood to organization, insights into competitor capabilities and respond to the change of environment. Each way has its own advantages and disadvantages, to make it fit with organization strategy and market is important for organization.

**(3) The mobility willingness of employee.**

According to a latest survey on employee mobility,[\[56\]](#) there is 48% employee want to work in other city, (world average 47%), 34% want to work abroad (world average 30%). These employees include not only young but also middle-aged, not only low

level workers, but also many managers of high position. From HR web and magazine it could be seen that the high turn-over rate is a very common problem in organizations, particularly at the end of each year it reaches a peak. This strengthens the mobility of labor market and good for recruiters.

In comparison, Czech people have less motives to go abroad or move to other places. They love their own country more than any other nationality, they are strongly attached to their families, to balance life and work is very important for them. This means that employee themselves may also prefer internal recruitment if available rather than turn over and go to labor market.

#### **(4) The impact of national culture value**

In previous section, we have compared the culture values of Czech and China. Czechs has higher score on the index of Uncertainty avoidance, which means Czech people have a much stronger tendency to avoid ambiguity and uncertainties than Chinese in respective of people's behavior at organization and work situation. External recruitment has much more risk and uncertainties than internal recruitment. Perhaps this is one possible reason that Czech employers prefer choose internal to ensure security and more accurate assessment of their employee. China culture has very low level in this index, they have more tolerance about uncertainty and potential change. That is why they can easily accept external labour market.

Culture value also influences the channel of recruitment. For example, China is regarded as a culture being particularism and relationship highly important, quite often people get recruitment news from personal networking and word of mouth in addition to formal channel. And for employer, adopt employee from its networking is a way to enhance the relationship and to attract more social resources. For Czech employers, they put stress on training and learning in order to develop the competent employee required by the organization and these talents constructs the core competencies.

#### **What selection methods are used more by Czech and China firms?**

**Table 5-2 selection methods used in Czech firms**

Selection method	Preference No. (per cent)						missing	total
	1st	2nd	3rd	4th	5th	6th		
Application form	21.7	25	21.7	6.7	1.7		23.3	100
Assessment centre	0	1.7	13.3	6.7	1.7	3.3	73.3	100
One-to-one interview	70	25	5					100
Psychometric tests	0	3.3	10	6.7	10	5	65	100
Interview panel	0	3.3	3.3	10	6.7	3.3	73.3	100
References	5	40	33	11.7	11.7		8.3	100

**Table 5-3 Selection method used in China firms**

Selection method	Preference No.(per cent)						missing	total
	1st	2nd	3rd	4th	5th	6th		
Application form	27.3	30	10	4.5	4.5	3.6	20	100
Assessment centre	1.8	4.5	9.1	11.8	8.2	1.8	62.7	100
One-to-one interview	50	29.1	14.5		0.9		5.5	100
Psychometric tests		5.5	12.7	9.1	6.4	2.7	63.6	100
Interview panel	7.3	7.3	14.5	10	2.7	1.8	56.4	100
References	13.6	13.6	16.4	17.3	7.3	4.5	27.3	100

Selection involves the identification of the most suitable person from a pool of applicants. Organization can choose from wide range of selection methods, including references, interviews and tests. Many organizations use not just one but a combination of selection practices. Particular selection method and selection standard are used more or less frequently in different culture settings. For example, graphology is relatively popular in France and in some parts of Switzerland, but is hardly used at all elsewhere.

This is the results from our survey concerning the selection method, we provide 6 methods in the choices, and ask respondents to choose and then rank according to preference (1st means most preferred, 6th least preferred).

It could be seen that the most common used methods in both countries are one-to-one interviews, application forms and references. The method of Assessment centre, psychometric tests and interview panel are rarely used. The general situation is similar in Czech and China firms.

Examining into the preference, we can find there still exist difference. In Czech firms, the one-to-one interviews dominate the first place (70%), while China 50% rank first, other 44% rank 2<sup>nd</sup> and 3th place. Another difference is the method of References. 78% rank prior to 3th place, the percent is 43.6% in China. Reference is more often used in Czech selection practices. it seems that China has little more choices on Interview panel than Czech. Psychometric test is the least used method in China, in Czech, Assessment centre and Interview panel are the least used.

This proved that there is marked national difference on the frequency of a certain selection method, even though the common methods are very similar. We can take a look on the data in 1998(see Table 5-4) to compare if there is any change in Czech firms as to selection. Generally it shows constant tendency, interview is still the first-of-all choice, reference has a little more use now, and there is an increasing use of psychometric tests.



Is it possible to explain the selection practice of Czech and China by culture influence? A number of studies has examined the international difference in selection practices and the role of national culture in explaining such difference in desirability and usage. [79] Two cultural values-uncertainty avoidance and power distance could predict some of the practices. Culture in high uncertainty avoidance used more test types, used them more extensively and conducted more interviews.

**Table5-4 Selection method used in Czech organizations(per cent)**

Selection method	for every and most app.		for few and not used	
	1996	1998	1996	1998
Interview panel	17	25	32	28
One-to-one interview	81	81	3	/
Application form	83	78	3	6
Psychometric tests	7	10	45	46
Assessment centre	1	/	55	62
Graphology	1	/	59	63
References	32	33	8	12

Source: [60].

Czech culture is high on the index of uncertainty avoidance, according to the previous study, they should use more tests type. However, in our survey also from Cranet survey, they use common selection methods, and hardly use Graphology and Assessment centre. Psychometric test has the trend of increasing use, but still in lower usage than other methods.

We believe those studies as they have a large amount of data and proof to support their conclusion. However, in our case, it seems that sole culture factor cannot explain. Perhaps, national culture factor should be combined with other societal factors to explain the practices. Czech companies use few psychometric test and assessment centre, perhaps due to other reasons: first one is there is limited staff budget in company, which is influenced by a constant pressure on personnel cost cuts. More advanced tests like psychometric test and assessment centre will cost a lot, and HRs must learn how to use these methods or pay for agent to do this job. Secondly, The Czech corporate culture has a tendency towards informal practices as it copes with social rules and habits like improvisation, flexible reactions, reliance on social networks and antipathy to be bound by detailed regulations. [37] This informal style in practice is also found in our analysis on survey. It could be expected that they tend not to use the too rigid and formal test types.

On the other hand, this culture factor seems be able to explain the more use of reference in Czech firms. Reference could be regarded as a source to prove the identity and more important the experience or previous performance of an employee. As the new employer need to know whether the candidate has the experience in this industry and this specialization. This is a way to testify the reliability of application form and to avoid risk, this is understandable behavior in the culture of high uncertainty avoidance tendency.

In China, organization don't use these test types often, one reason is similar with Czech in that we have very limited staff budgets, for most companies, staff is still regarded as cost centre. Another reason could be attributed to our culture, Chinese culture is very low in uncertainty avoidance, people have not strong desire to control everything in details, especially when it may cost lots of money and time. In tradition, psychology test are seldom used. Until recent years, there are a number of advanced tools introduced by foreign companies and many international consultancy agents, however, in normal companies, in local firms, it has not much applications.

In the unit of selection, on the question "If there is any informal selection criteria(age, looking, family background, gender etc.?" among Czech firms, 16.7% answers much, and 33.33% moderate, among China firms, 9% much and 22.7% moderate.

This result complies with some literatures from Czech authors. For example, it was written that "in spite of the fact that there is relatively strict anti-discrimination legislation in the Czech Republic, many organizations try to avoid the legislation and practice very special methods of recruitment and selection. Unfortunately many such organizations are international ones... examples of age discrimination and woman discrimination."[\[60\]](#).

In China, we have similar situation, despite the strict law, companies always find their way out. On the advertisement of recruitment, quite often we can see the age limit directly, and the limit age is getting younger and younger. Another common discrimination is toward woman candidates, this requirement usually would not be explicit on the advertisement, but in reality, they will prefer choose man even with lower qualification. They will find various excuses for this unfair treatment, such as woman cannot go on business trip often, woman cannot have take many social activities which required of sales job, woman will have maternity period which influence their work and so on.

Relatively, large company and state-owned enterprises has more formal HRM practices and less such discrimination behavior than others.

However, the result from survey seems hard to explain by culture factors. Because the gender discrimination related to the index of Masculine/Femine, China and Czech

Republic are similar located in the medium level. They should have similar attitude toward equality of man and woman. In tradition, China has even more stronger tendency to masculine culture. In the category of Trompennar's culture study, the culture of Czechslovakia focus more on formal rules than relationships, while China more informal and placed extreme importance on relationship and status. So it is expected that China has higher response on informal selection than Czech.

Perhaps it could be explained by the size of firms. In China sample, 60% are big company with more than 200 employees, and more than half has over 500 employees, among Czech surveyed firms, 33.3% are company with more than 200 employee. From methodology analysis, we have found that size has relationship with the formal or informal HRM practice. Usually, large company has relatively more formal practices. Therefore, it is necessary to take into account the size of firm to examine this issue.

However, this result may tell us one thing: both Czech and China firms are pragmatic. This is also one of the characters of business management at the early stage of market economy.

### **5.3 Training and Development**

Training and development are considered the most important HR functions for the era of knowledge-based economy. International evidences show that in the vast bulk of organizations, in almost every nation covered, there is a written policy for training and development, more common than written policies on any other aspects excepting pay and benefits. We will compare the training practice between Czech and China.

#### **5.3.1. The Importance of Training and Development**

From our survey, it was shown that both Czech and China companies give high mark on the importance of vocational education and training. There are other surveys also indicate that in the area of training, China has no obvious gap compared to western "best practice".[\[66\]](#) Training is high-lightened by government, industry and organizations. It reflects the reality that China is eager to learn so as to adapt the new market economy. They regard training and as an investment and in return get a workforce of high quality.

Also when candidates choose a company, they will ask if there is training or learning opportunity. This demanding on training led to the development of many training institute or training agent in the big market, both from western countries and local

<b>Table5-5 Importance of Vocational education and training</b>		
	Czech	China
not at all important		2.73
slightly important	1.67	10.00
moderately important	3.33	5.45
quite important	43.33	40.00
very important	51.67	41.82

The main issues of training includes the expense or time spend on training of employee; the identification of training needs; the objective of training and the evaluation of training results/effects. Some of these issues could be reflected from our questionnaire.

### 5.3.2 The Expense on Training

On the training of non-managerial employee, more China firms have the expense percentage at the level of 1.01-2.0%.

**Table 5-6 Average percentage of turnover spent on training**

Non-managerial employee			Managerials	
	Czech	China	Czech	China
0.01-0.05%	61.67	39.09	53.33	30.91
0.51-1.0%	23.33	17.27	21.67	27.27
1.01-2.0%	5.00	24.55	16.67	18.18
2.01-4.0%		5.45		7.27
4.0%		10.91		11.82

It is similar with other survey in China, which show that in respective of training time and expense, employer gives frontline workers more training [114].

The Czech firms have higher investment on managerial training than on workers training. The data from cranet project also confirms that from the perspective of time spent on training and development, the activity focused on managers and professional/technical staff, clerical and particularly manual staff are ignored. The average number of days/year to training of MG and P/T is 8 days, while for clerical 4 days and for manual 3 days; also the proportion of expense on MG is higher than clerical and manuals. [60]

In both countries, more emphasis placed on the management development. Because the drastic transforming of economy and society demands managers who has professional skills and knowledge and adapt to the market economy environment, however, during the many years of centralized planned economy, lack of scientific

management education and practice, professional manager doesn't exist. Therefore, it is a greater challenge for the managers to learn in comparison to non-managerials.

### **5.3.3 The Training Methods**

Majority China firms choose on-the-job training (79%) as the first choice, compared to 45.5% Czech company. 21.4% Czech firms and 6% China company prefer off-the-job training, and 35.7% Czech firms and 34.9% China firms choose this as second preference. It could be seen that Czech firms has more use off-the-job training than China firms. Perhaps because in Czech firms the training is more focused on managers and professional and technical staff, these kind of training usually need special institutions to provide, for example, MBA class at university, advanced technical centre, or the headquarter of this company. Therefore it could not be achieved at company. Rather, manual workers' training could be given on-the-job by experienced and skillful worker or technician.

In China, on-the-job training is more popular, it has possible two reasons. Firstly, it is more cost-effective. Secondly, off-the-job training for managers could have severe impact on the progress in their team. As we know, China culture is high in Power distance index (80), authority structure tend to be centralized in organizations, empowerment is not often used, so almost each decision must be waited for managers. Even the manager is taking a training program out of the company, you can see they answer mobile quite often. Another feature is qualifications are important in China, managers would like choose those training program which can give them certificates and flexible in time schedule. Development opportunities, and good relationship with the leader and colleague is more important to retain managers than salaries and benefits. This is a trend particularly in higher level.

Despite of the emphasis on training in both countries, it doesn't mean there is no problem in this HRM area. Training content failed to satisfy training needs, the evaluation of training effects and the turn-over of trained employees are among the most discussed problems.

A good signal could be seen, more firms come to realize that performance appraisal could be used to identify training needs. 41.8% of Czech firms take PA as important method to identify training needs, 29% of China firms do. This will benefit making practical training plan and implementation.

## **5.4 Performance Appraisal**

Performance management has developed over the past two decades as a strategic, integrated process which incorporates goal-setting, performance appraisal and

development into a unified and coherent framework with the specific aim of aligning individual performance goals with the organization's wider objectives[33]. Performance appraisal (PA) as the core of performance management, is viewed as serving a number of functions: documentation, development, administrative purpose (reward and promotion) and subordinate expression. [71]

#### 5.4.1 The Method and the Participants of Performance Ppraisal

Majority of Czech firms (81.7%) choose supervisor interview as the major appraisal form, this is much higher than other two forms as written reports(41.7%), also higher than China firms(36.4%). Supervisor is absolute appraiser, employee self appraisal at the second place, peers and subordinates are seldom selected.

**Table 5-7 The methods of PA**

	<b>Czech Rep.</b>	<b>China</b>
supervisor interview	81.7	36.4
informal feedback	28.3	19.3
written reports	41.7	72.7
<b>Table 5-8 The participants of PA</b>	<b>Czech Rep.</b>	<b>China</b>
supervisor	100	90.9
employee oneself	33.9	66.4
peers/colleagues	5.1	51.8
subordinates	6.8	39.1

This result is closed to other Czech author's observation, a survey made in 1999-2000 by Masaryk Institute of Advanced Studies of CTU has concluded that most companies surveyed assess their employees approximately once a year, mainly in the form of a free description or assessment interview.[34]The assessment results are communicated to employees in a detailed interview. Since 1990s, the proportion of organizations with formal performance appraisal systems has increased, the actual estimates suggest more than 80% of organization do with performance appraisal. The appraisers are immediate supervisors, but there is an increasing tendency towards self-appraisal.

On the contrary, written report (72.7%) is the first of all choice of China firms. As to participants, in addition to supervisor's domination, other three also participate in PA more or less, self appraisal is more than 60%. This is consistent with other survey report, in that most managers and clericals use written reports, manual workers use score record. Self appraisal used very common in practice, 62.1% technical, 75.1% clericals and more than 95% managers use.

Why Czech and China firm has much difference on the methods and participants of PA? Performance appraisal is a complex process, it is influenced by other factors such as national culture and organization culture and other contingent factors.

It was supposed that the Individualism/collectivism and power distance has effect on process of PA in a number of ways, see Table 5-9. We will examine whether this could interpret our question China and Czech are both culture of high power distance, according to this opinion, the supervisor will be the major appraiser, this is supported by the results. However, there is substantial China firms also choose self, peer and subordinate as appraisers, this seems to be the behavior of Low PDI, this cannot be interpreted by this suppose.

Czech has much higher supervisor interview could be explained by its High PDI and high Individualist characters. China is high PDI and typical collectivist society, this somehow lead to conflicting when explain their impact on PA process.

Most of China firms have adopted written reports- the in-directive way as performance appraisal approach, this could be explained by its collectivists culture. In a collectivist culture, harmony is placed on the priority, both managers and employees care much about to keep “face” for others such as supervisors, colleagues or subordinates. Therefore, direct interview, and feedback is not well accepted in most local firms. In this case, it proved that the culture did have impact on performance appraisal in terms of the method and participants.

**Table 5-9 The effects of Individualism and power distance on PA process**

Cultural dimension	Who	How	Content	purpose
Low PDI	Multi-source	Two-way communication, employee-initiated appeals process	unspecified	Unspecified
High PDI(China, Czech)	Supervisor	Directive supervisor-initiated, no appeals process	unspecified	Unspecified
Collectivist (China)	Supervisor 3 <sup>rd</sup> party	Subtle/indirect	Group level	Developmental (increase loyalty)
Individualist (Czech )	unspecified	Direct/open	Individual level, job-focus	Administrative

Sources:[41]

### 5.4.2 The Objective of Performance Appraisal

There are a number of objectives or purpose of performance appraisal and also which decide the use the appraisal results. Most common purpose are: for pay (deciding the level, or if increase), for performance improvement in the future; for identifying training needs; for promotion decision and for career development. Usually, a combination of a certain purposes could be used. Therefore, this is a multiple question, and preference rank is required to explicit which purpose more important. For both countries, the 1st objective is for performance improvement either on the total percentage or on the rank, the 2nd is for pay.

**Table 5-10 Objectives of Performance Appraisal**

Objectives of Performance Appraisal	Czech rank				China rank			
	1st	2nd	3rd	total	1st	2nd	3rd	total
For pay	29.2	22.9	22.9	75	35.2	27.3	9.1	71.6
For performance improvement	59.6	24.6	10.5	94.7	64.6	21.9	10.4	96.9
For training needs	10.9	30.9	29.1	70.9	5.8	23.2	30.4	59.4
For promotion	2.7	18.9	13.5	35.1	4.2	14.1	39.4	57.7
For career development	10.4	20.8	31.3	62.5	9.9	32.4	19.7	62

The 3rd objective of Czech firms is “identifying training need”, the percentage is very closed to top 2, illustrating the importance of this work in Czech firms. Top 3 of China is for career development, however, the other two items have total percent closed to top 3, but the rank is lower. Top 4 for Czech is career development and the last one is for promotion. Top 4 of China is or training and the last one is also career development.

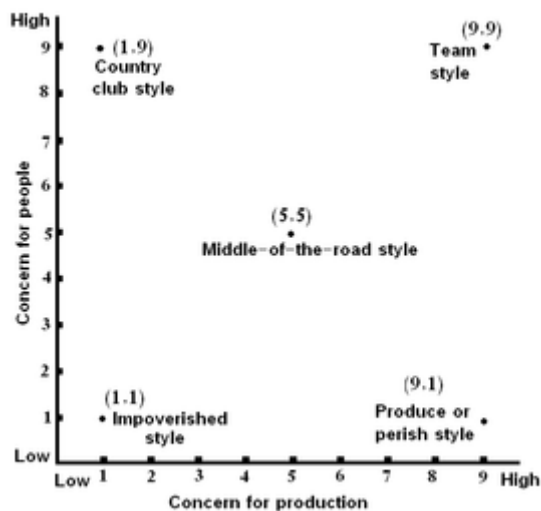
In this area, Czech and China has shown more similarity than difference. The results indicate that Czech and China firms placed dominant emphasis on performance improvement, it is a future-oriented strategic focus which benefit both organization and employees. In this sense, it is closed to the western “best practice”. It could be seen as a great progress of both countries in these few years. As it was argued that in China, PA is short-term oriented, mainly used to decide the level of bonus and promotion.[66][84]. In Czech, the performance assessment is seen as support information for administrative decision-making, first of all for compensation, identification of training, career progression or promotion [34]. Perhaps, this progress is driven by the pressures to create competitive advantage in order to survive in an international market place, performance management is argued to have a key role in



developing human capital which is the core of competitive advantage for any company.

In both countries, performance appraisal also is important to support make decision on pay, in form of year-end bonus or variable pay. There is always debate on the link of performance with reward. Performance management system should be entirely developmentally focused, the allocation of merit pay or pay increase being made through other mechanisms [3]. Despite of the debate, the practice is used often as a short-run motivation to employee due to the increasing competition pressure and to the demand of increasing producing efficiency. Of course, it is problematic about the “equity” on distribution according to performance appraisal results, as the appraisal process inevitably has subjective influence from objective set, appraisers, esp. when the process is not well designed. This is an issue need more investigation to solve in the context of organization.

This study has a question concerning “extent to which favoritism influence performance appraisal?” the answer is striking, there are 90% Czech firms regard this as “much” and 5% very much; however, at China side 7.3% of respond “much”, and 63.6% regard it as “small” or “moderate”. It is a surprising result. According to Chinese culture, ‘Guanxi’ permeates in all societal life, it was expected that favoritism has much influence on performance appraisal. On the other hand, the culture of Czech focus more on formal rules, and achievement oriented rather than ascription oriented.



It is explicit that this phenomenon cannot be explained by culture theory, there must be other factors overwhelming culture declination in organizations, in order to survive and compete in the changing environment. Perhaps this reflects the different leadership style between Czech and China. Looking through the result on this question, together with other as described previously, Czech firms seems favor the “democratic style” leadership

according to university of Iowa studies [90] in which the leader tend to involve employees in decision making, delegate authority, encourage participation in deciding work methods and goals, and use feedback as an opportunity for coaching employees. On the other end, China firms mainly adopt the “autocratic style”, in that the leader typically centralize authority, dictate work methods in details, make unilateral decisions, and limit employee participation. It conforms with the reality observed in majority of China organizations, at the same time, Czech firms’ informal practice in HRM could be explained. Refer to Managerial Grid [6], see figure5-1.

In most China organizations, the leadership style seems located at 9,1, the task management, production and task completed is of priority, human elements interfere to a minimum degree. Czech style located at 5,5, middle-of-the-road Management, where adequate performance is possible through balancing the necessity to get out work with maintaining morale of people at a satisfactory level. This can be confirmed by the fact that many Czech companies use internal labor market, which is advantageous at motivation, while China use mainly external recruitment.

Another finding from our survey, the objective for PA has relations with ownership. It was found foreign company has more choices on “the objective for pay “ and “the objective for promotion” than local firms than joint ventures. On the “objective for performance improvement”, joint ventures has the highest score and local follows and foreign the last.

## 5.5 Compensation

In the central planned regime, compensation and rewards are determined centrally. Organization only implements the policies and calculates the amount to salary for each employee depending on a few variables such as basic salary, working years,

title and attendance. There is little difference between each other, a kind of equality has maintained. An important part of compensation is non-financial benefits which is distributed to everyone, maybe a little different across industry. However, since the transformation, the old system is totally changed, even in the state-owned enterprises, the gap between employee is enlarging.

The recognition of people as the inimitable source of competitive edge, in addition to the effects of skills shortages, have seen a resurgence of interest in both the composition and presentation of the reward package which designed to motivate employee and more individually oriented. For high qualified talents, they have more advantage in negotiating on pay.

In a word, this is an area which has suffered the most change and challenge during the transformation. Within the limited space of questionnaire, we have questions on four aspects. We will compare between Czech and China and discuss.

### 5.5.1 The Level at which Basic Pay Is Determined

At company level, Czech and China have similar state, at national/industry level, China has higher percentage, Czech has higher rate at the individual level pay. There are two possible reasons: culture and labor market.

Firstly, Czech culture is characterized by greater individualism, this type of country tend to feature a greater focus on pay for performance generally, an still more strongly a focus on individual pay.

**Table 5- 11 Basic pay determined level**

	China firms	Czech firms
national/industry level	27.8	16.7
company level	52.8	50
individual level	19.4	33.3

Nations which rely on a more materialist foregrounding, or greater ‘Masculinity’ in Hofstede’s terms, tend to feature more of a focus on individual bonus[81], Czech is high in Masculinity index (57), if according to the calibrated result from Ludek Kolman [59], it is even more higher at 81.

Secondly, as we know from the survey, 31.67% of Czech firms mainly use internal recruitment, 25% use both internal and external as a balance. The percentage is much higher than China . Maybe it could be supposed that Czech firm is less influenced by labor market concerning salary level, therefore it is possible to make individual pay through negotiation. But in China, firms rely on external recruitment and employees in a higher turn-over and mobility, employer have to provide at least

the same salary or higher to attract suitable workforce, therefore it has become a custom. The market supply and demand as well other economic factors will shape the level of a certain industry, except the monopoly industry in China, which monopoly by Central government enterprises.

### 5.5.2 The Components of Variable Pay

Variable pay is viewed as having originated within the USA, but it is now more widespread, and a focus on individual is stated as a preference by employees across the world. Czech and China both have this in their reward system.

It could be seen that both countries has a high level on the form of bonuses. 22.4 % of Czech firms also use profit sharing, this is similar as supposed by Josef Koubek, and it is said this is rather typical for managers compensation in Czech.

**Table 5-12      Variable pay**

	China firms	Czech firms
profit sharing	30.3	22.4
share options	11	1.7
bonuses	87	87.9

On the other hand, employee share options are relatively rare. More China firms use share options, this is particularly used for critical position holders, as senior management, and specialists, this form used to retain these people and also advocate their long-term decision and behavior for the development of organization.

### 5.5.3 Influential Factors on Salary Decision

Czech and China has much difference in view the importance of given factors influencing salary. More China firms regard group achievement and seniority very important than Czech firms; more Czech firms regard individual performance and experience very important.

The differences remind us once more that consideration of national culture is useful to understand cross national difference on pay practice.

Although undergoing great reform and change, China's collectivist culture still remains. Organization tends to shape a corporate culture with collectivism spirit. Assigning tasks, assessing/evaluating and distributing on group is normal practice. There may difference between groups, but within group, equality will be tried to maintained.

**Table 5- 13 Influential factors on salary decision**

	China		Czech	
	quite important	very important	quite important	very important
group achievement	42.2	45.9	40	28.3
individual performance	40.4	35.8	21.7	65
employee seniority	22	6.4	10	0
training level	29.4	7.3	26.7	5
experience	40.4	11.9	33.3	30

Another character of China culture is its roots of Confucius philosophy lasting a few thousands years. Respect seniority is one of the basic rules. That may explain in some degree about the respect of seniority in social life and organization. In the components of salary, there is one component called “seniority salary”, which is calculated by the years you have worked.

Czech and China has more differences than similarities on HRM practices. Significant differences were identified in Recruitment and selection; Performance appraisal; Compensation and Trade union. The Hypothesis 4 of this study has been tested. We tried to explain the difference and consider it within the wider context of HRM in each country, the difference of Czech and China national culture, especially on the index of Individualism/collectivism, uncertainty avoidance (mainly of Hofstede’s terms), was proved to be able to explain some of the difference. In addition, institutional factors like labour market and the competitive market environment also has effects on the choice of HRM practices in organization. Hypothesis 2 was supported.

## **5.6 Trade Union**

From the survey of this study, as well from further data analysis, it was found that trade union was one of the most dependent factors in that it has correlations to state, to size, to industry. The results of analysis of trade union will be discussed in this part.

### **5.6.1 Comparison of Trade Union between Czech the Republic and China**

The average membership in China surveyed firms is 44.9%. The membership in the 60 surveyed Czech firms, varies from minimum 0.0% to maximum 90%, the average is 16%. Most Czech respondents answered that the role of trade union is not important. In general, Czech firms have lower membership than China. The role of trade union is less important than China, see Table 5-14.

**Table 5-14 The comparison on the role of union (Czech-China )**

		Czech Frequency	Czech Valid Per.	China Frequency	China Valid Per.
Valid	Not important at all	37	62.7	33	30.3
	Small extent	4	6.8	19	17.4
	moderate	11	18.6	43	39.4
	Strong	5	8.5	11	10.1
	Very strong	2	3.4	3	2.8
	Total	59	100.0	109	100.0
Missing	System	1		1	
Total		60		110	

The trend of weakening of trade union could be seen not only in Czech but also in all Europe. The theme of a constant decline in union membership, union influence and collective bargaining has been a mainstay in employment relations research over the last two decades. There are several recognized factors lead to the downside shift.

- Changing labor market. In the rapidly changing labor market, unions has had difficulty in recruiting and retaining members.
- The rise in 'globalization'. The expanding of MNCs have undermined traditional form of collective bargaining.
- Growth in part-time, temporary and 'atypical' job. The flexible work system increased the proportion of the labor force that unions had not organized well.

## **5.6.2 The Relations between Trade Union and Other Contingent Factors**

### **(1) Trade Union and Size**

Cross-tab analysis was made on the variable of size and the role of trade union, the result has shown that the obvious distance between large firms ( with 201 employees and above) and small firms.(with employee under 200).

**Table 5-15 Cross tab analysis of Size and the role of trade union**

Size	Not at all	Small	moderate	Strong	Very strong	
Above 500	5.9%	5.9%	52.9%	23.5%	11.8%	100.0%
201-500	33.3%	0.0%	66.7%	0.0%	0.0%	100.0%
51-200	80.0%	15.0%	0.0%	5.0%	0.0%	100.0%
1-50	100%	0.0%	0.0%	0.0%	0.0%	100.0%

This is proved by the one-way Anova analysis on size, see table 4-6. The significance level of both “union membership” and “role of union” between size is 0.000. Micro firms have the lowest membership percentage, small firms the second lowest, the middle size firms higher, and the large firms has the highest. In this dimension, it has show linear positive correlation between union membership with size, this complies with observation. As well, the role of union also has the positive correlations with size of firms, the larger size, the more important for trade union. This could be seen from table 4-7 and Annex 4.

## **(2) Trade Union and STATE-SIZE Clusters**

As we know that trade union has relations with state and size, how about the situation when compared on one variable given another variable the same? From the controlled group experiment, it was found that:

- In the group of China small and Czech small firms, China firms has higher values on ‘union membership’, ‘role of union’ than their Czech partners, see Figure 4-9
- In the group of China large and Czech large, it has shown inconsistent results, see Figure 4-10, in the first cluster, China has higher valued on both variables, in the second cluster it is on the contrary, in the third cluster, two group similar on membership, but Czech firms has higher value on ‘role of union’, which means that large size has special influence on the trade union system in organization, which is perhaps interacted also with other organization characteristics as the tradition, strategy of organization.
- In the group of China large and small, membership is closed to each other, but on the variable of ‘role of union’, large firm is higher than small one, see Figure 4-11
- In the group of Czech large and small, obviously, large firm has higher value than small firms in both variable, see Figure 4-12.

## **(3) Trade Union and Patterns of HRM**

In addition to state and size, trade union also shows relations to other contingent factor like industry. In the cluster analysis of industry, it was found that within the cluster mainly of firms from manufacturing and building sector, have the stronger union compared to other clusters. This complies with the tradition that labor-intensified industry tends to have much stronger trade union, see Figure4-6.

Is there any relation between trade union and functional human resource

management system? In the cluster of performance appraisal, (see figure4-8) has indicated that Cluster 1 has highest value regarding to role of trade union, cluster3 the lowest, at the same time, cluster 1 has much more formal HRM practices compared to cluster3, this paper supposed that in firms with strong union, tend to have more formal Human resource management, or vice versa. This preposition needs more empirical study to testify.



## 6 Conclusion and Implication for Theory and Practice

In this part, conclusion will be made through answering 6 questions.

### 6.1 What Has Been Done in This Study?

First of all, the main stream researches and literatures in the domain of comparative HRM study have been reviewed. The framework, major approaches and major contents in this domain has been clearly stated through the review. The typical questions pursued by comparative researchers was identified, such as (1) Which contextual factors are to be taken into account with regard to comparative HRM research? (2) What is the influence of national factors such as culture, labour legislation and government policy? (3) To what extent the contextual factors determine human resource management practices? (4) How to explain the similarities and differences of HRM between countries or regions? And, to answer these questions have become the objectives of this study in the case of China and Czech Republic.

The first hypothesis was put forward: H1. Czech Republic and China are both transition economies, but the way is different during transition. This may have reflection on their industrial relations and HRM practices in some degree, even though the influence may not be directly.

As regard to the approach toward explaining the differences, researchers have debated whether it is cultural or institutional factors, or both, that have the greatest influence on national HRM system. It was argued that these two approaches could be complementary rather than competing. This paper has selected the combination approach, which included both cultural context and institutional context into the study. The second hypothesis was put forward: **H2**. The difference of HRM practices across countries could be explained by both cultural and institutional context.

Concerning to the case of China and Czech, there has not comparative study of HRM between these two countries, the available literature are only more or less related to either China or Czech in terms of the culture values of these two countries, the institutional factors influence on HRM and so forth. from the evidence of previous research, two prepositions were given:

H3. Business ownership could explain partially HRM difference among different firms.

H4: There is significant difference between the culture of Czech and China, it is expected that HRM practices in Czech would be quite different from China. But the degree of difference may vary in different functional area of HRM

**Secondly**, this paper delineates the main distinctive facets of national context

associated with Czech and China, as national culture, transition economy, institutional factors including employment legislation, labor market, trade union and external influence from international organization as EU and WTO.

The major characteristics of these contexts and their possible influence on organization and management practices in each country were discussed in-depth. As organizations are embedded in the context, these are very important knowledge to understand well the HRM policies and practices of organization, and could be used to evaluate and compare cross-national HRM policies and practices, which is pursued by this study.

**Then**, the methodology for this study was designed and developed. In this system, original data from survey was processed into SPSS data document ready for analysis; a series of statistical analysis methods are applied in a systemic way, because output of the previous method was taken as the input of the next method, these methods support each other. This system will be illustrated in the following part of this paper. From the thorough analysis, a lot of valuable results were found. In this part, H4 was supported.

**Lastly**, this study has explored to explain the differences between Czech and China within the context of each country, by relevant theories of HRM and comparative study. Both cultural and institutional context factors were taken into account. Besides the cross-national differences on HRM, the difference across size, across ownership and across industry were also examined which implicate the influence of these factors on HRM practice. Based on the comparison result and the explanation of the potential causes, reasonable recommendations were given to Czech and China firms. H2 and H3 were supported.

## **6.2 What Was New in the Methodology and Implication for Theory?**

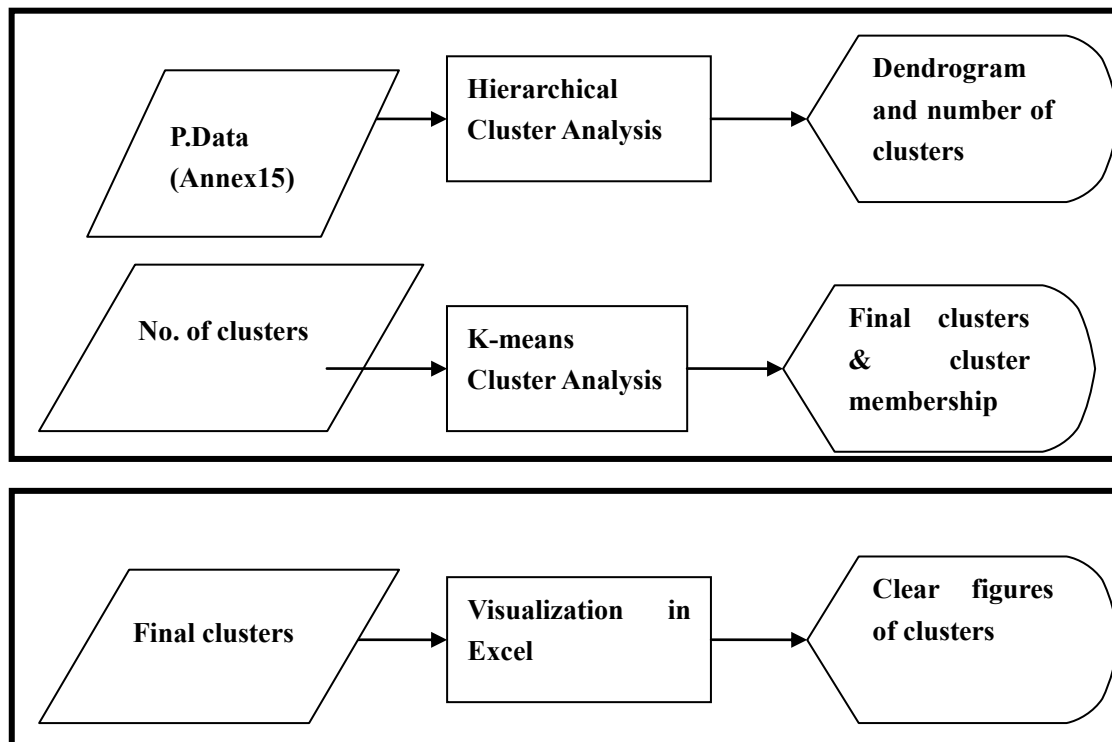
There are three originalities in this study.

**(1) This study is a new exploration in the area of comparative research.** There is not comparative study between Czech Republic and China so far. This empirical study will increase the understanding of both countries and enrich the knowledge in this relatively new area which needs more empirical study.

**(2) The data processing in this study is an innovative application.** Cluster analysis requires the variables be scale measurement, but most of the original data from survey are nominal variables. How to process the data while not change the distance between each value? A standardization process was made successfully, the old values were replaced by new values, which is  $\in [-1, 1]$ , the distance between each

value is maintained exactly the same, the  $\sum$  of all values equal 0. Through this special data processing, the data become available for further analysis, which will ensure the quality of the cluster analysis.

**Figure 6-1 Interrelations between methods**



Note: P. Data--- processed data.

**(3) The integrated system of methodology.** In this study, data analysis process is not a simple combination of a few methods, but a complete system as the methods are interrelated and support each other, for instance, the results of description analysis has indicated on which variables has shown significant difference, then further analysis will be made on these variables; the output of previous method could be the input of the next method. Thus, through step-by-step analysis, further and further investigation into the data was achieved and more information was extracted. Here only take a few examples to illustrate the interrelations between methods in this system. See Figure 6-1.

This study proved that Cluster analysis is a very useful method in comparative researches, not only help to quick review the characteristics of multivariate data, but also to recognize possible patterns present. In addition, by use of the newly formed variable of cluster membership to crosstab with other controlled variable, more detailed information could be found within a certain cluster, such as, how many small size firms so forth, this can help to examine the cases in details and to explore if there is any relationship between these feature and the values on a certain variables. When relationship is not linear, common correlation analysis is limited to use, Cluster analysis can compensate. From the view of user, cluster analysis study the cases in a

more practical way rather than only rely on mathematical data.

## **6.3 What Was Found and How to Imply It for Practice?**

### **6.3.1 Main Differences Between Czech and China Companies**

#### ***(1) The context of HRM in Czech Republic and China has much difference.***

Through prospecting the most prominent researches on national culture, it was found that Czech culture and China culture has significant difference in many aspects.

The institutional context of Czech and China also differ in many aspects, such as employment legislation, trade union, labor market.

#### ***(2) HRM practice has Significant differences between Czech Republic and China.***

Differences were found in almost all function areas of HRM between Czech and China. (see Table 4-3) In a brief, recruitment and selection differ in terms of recruitment sources and selection method preference; training and development differ in terms of expense on training and type of training on-the job/off-the –job; performance appraisal differ in terms of appraisal method and participants of appraisal; compensation differ in terms of pay determinant level, the influence factors of salary; trade union differ in term of union membership and the role of trade union significantly.

#### ***(3) HRM practices are influenced by contingent factors as size, ownership and industry.***

It was found across size remarkable difference on two variables of compensation, two variables of trade union: salary level depends on group performance, salary level depends on seniority, union membership, the role of trade union. (see Annex4) There is an obvious trend that larger firms have higher level in these items than small firms.

Analysis on ownership found significant difference on Appraisal objectives, and variable pay forms. (see Annex5) Foreign firm has highest level in “appraisal objective for pay, for promotion and variable pay form -bonus”. On “Appraisal objective for performance improvement”, as well “trade union membership”, joint ventures rank higher local firms the second and foreign firms the lowest. In respective of these observation, joint ventures is closer to local firms rather than to foreign firms. It is possible to suppose that joint venture in our survey has localized their HRM practices to some extent.

One-way Anova analysis on industry identified three variables with significant variance between industries: importance of training, appraisal method-written report, appraisal participants-supervisor.(see Annex6) In general, IT industry has the highest level on training importance and supervisor performance appraisal, the transportation

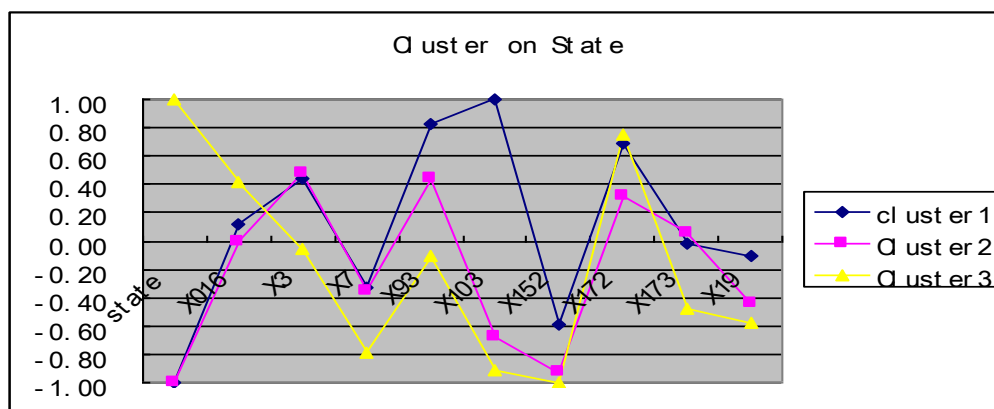
sector lowest; in terms of appraisal by written report, building industry highest and IT second, transportation still the lowest. Industry has a certain degree of influence on practices.

## 6.3.2 Main Findings from Cluster Analysis

### 6.3.2.1 Findings from Cluster Analysis on All Cases

Four groups of cluster analysis were conducted on all cases. They are Cluster on State, Cluster on Industry, Cluster on X1 and Cluster on X9. As cluster analysis is a method on general classification and overall characteristics of each cluster rather than an exact description on values, the summary of findings will be made on the general trend.

**Cluster on State**, includes the variables of State (Czech and China) and other nine variables. **Figure 6-2 Clusters on state**



State-Czech/China, X016-references, X3-recruitment sources, X7-expense on emp. training, X93-written report, X103 –peers, X152-variable pay /share options, X172- ind. performance, X173-seniority, X19-role of Union

Except the indicator of “selection method-reference (X016)” and “salary level depends on individual performance(X172)”, cluster3 is lower in all other indicators than cluster 1 and cluster2. Here most firms in cluster3 are Czech firms, while most firms in cluster 1 and cluster 2 are China firms. Therefore, it could be regarded that in general, Czech firms has significant lower level than China firms in the 7 variables (X3, X7, X93, X103, X152, X172, X173, X19) as given in the analysis, except two variables(X016, X172). It is supported by the results from crosstab analysis.

There are difference between cluster 1 and cluster2, but the distance is not as obvious as between cluster3. Three points are jointed in cluster1 and cluster2, which could be taken as the very typical in China firms, average 0.51-1.0% invest on training employee, recruit mainly from external, give consideration on seniority when decide the salary level of staff.

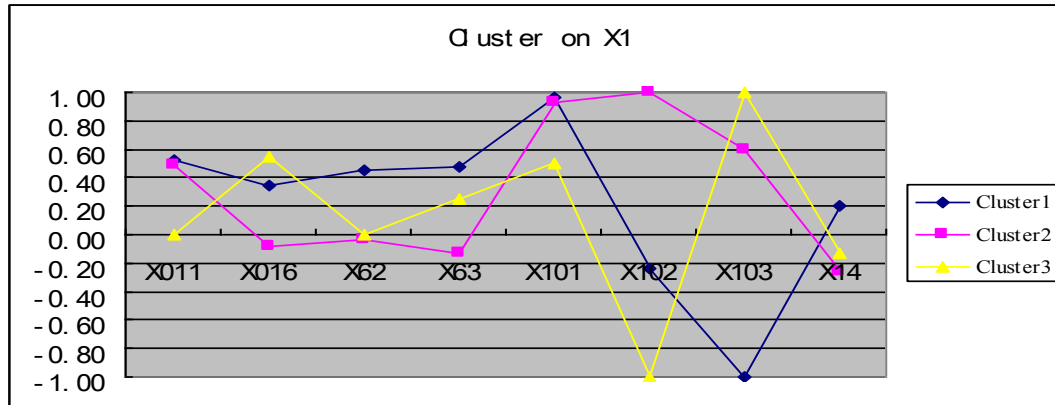
**Cluster on Industry** includes industry, and other 7 variables, concentrated on Performance appraisal and trade union. One remarkable phenomenon is the contrast

effect between cluster1 (more service companies, small companies, more) and cluster2 (more large firms, more manufacturing and building firms,). Cluster 2 has more formal practice on performance appraisal, such as written report, self appraisal used in the process. And they have the stronger union compared to other clusters. This complies with the tradition that manufacturing industry tends to have more stronger trade union to protect the large number of workers' benefits. Also indicates that the large companies have more formal management system and customs.

**Cluster on X1** includes selection variables X011, X016, and other 6 variables. In this group of clusters, we found two patterns of HRM practices in a certain of aspects, which was reflected by cluster 1 and cluster2.

**Pattern A:** strong preference using application form in selection, external training and qualification training, supervisor as the absolutely evaluator of performance, salary level more likely determined by company and individual. The peers/colleague doesn't participate in performance appraisal. The combination of these HRM practices has represented a style, as the firms in this cluster distribute in both countries, in all size, all industries and all ownership.

**Figure 6-3 Cluster on X1**

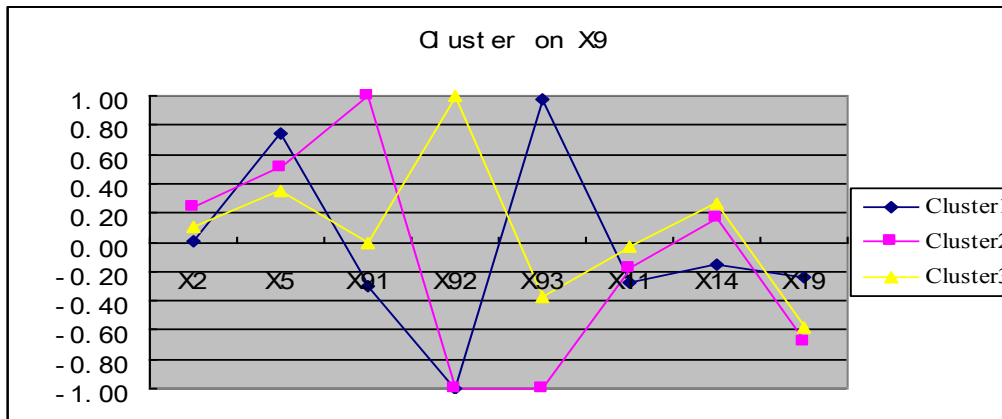


X011-- application form, X016-references, X62-external training, X63-qualification training  
X101-supervisor as appraiser, X102-employee oneself as appraiser, X102-peers as appraiser.  
X14--the level determinate salary.

**Pattern B:** strong preference using application form in selection ,use less references, lower preference to external and qualification training, supervisor as the major evaluator of performance, highest level on the formal degree of appraisal participation, for it includes supervisor, employee himself and peer in the activity, which remind us of the 360 feedback.

**Cluster on X9**, this group of clusters includes X9 and other 5 variables.

**Figure 6-4 Cluster on X9**



**X2-importance of Recommendation, X5-importance of Training, X91--supervisor interview, X92-informal feedback, X93-written reports, X11- favoritism in P.A. X14-the level determinate salary, X19-- Role of Union**

Looking at the line of cluster1 & cluster3, we may say that compared to cluster 3, Cluster 1 is more formal in 5 practices out of altogether 8 items. (see X2, X5, X92, X93, X11). Furthermore, the formal clusters has the basic pay level determine at industry level, highest value regarding to role of trade union, while the informal cluster more turn to company level or individual level, and the lowest score on the role of union. Limited to this group of clusters, it seems that stronger union, tends to accompany with a more formal Human resource management system. In addition, through examine the distribution of firms in each cluster, we found that that the cluster with more large firms has more formal HRM practices than that of small firms. In cluster with more manufacturing business, have more formal HRM practices than that of service business.

The cluster of X9 has covered almost all the cases in our survey (166 out of 170), it is highly representative of the surveyed firms. Therefore, we can say that these findings could reflect the reality to some degree. However, if it is applicable to each item of HRM practices, depends on further study with more controlled experiment to testify.

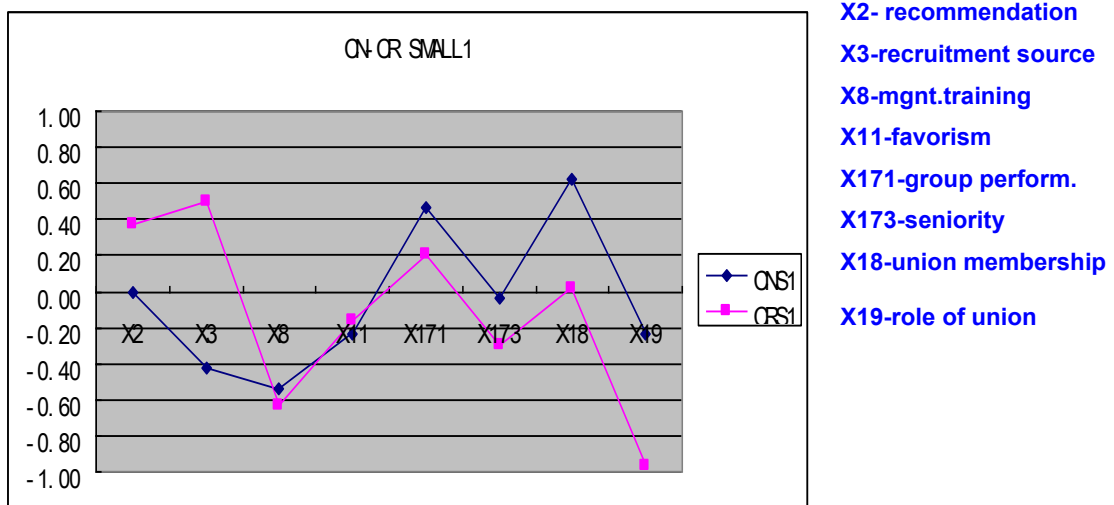
### 6.3.2.2 Cluster Analysis on Selected Cases Classified by State and Size

Four clusters analysis was conducted among Czech small firms, Czech large firms, China small large clusters. Based on that, four groups of cross comparison was made as Czech small-China small; Czech large-China large; Czech small –Czech large; China small-China large in order to find characteristics within each group.

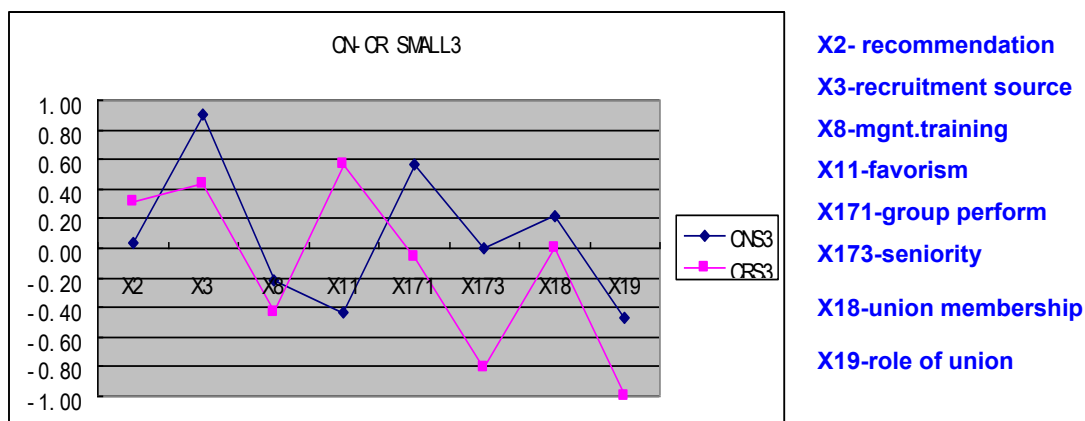
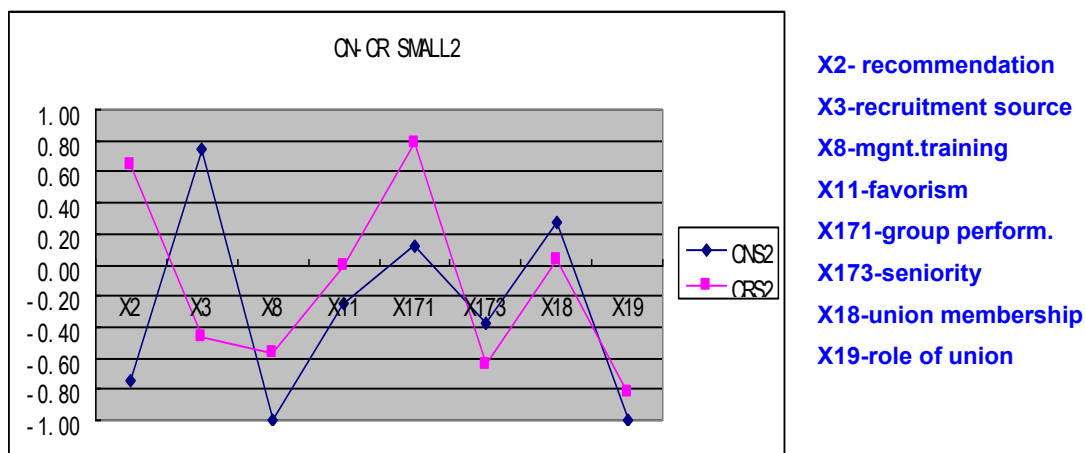
**China small-Czech small:** China small firms has significant diversity among

themselves, therefore, the three clusters has shown much more difference than consistency.

**Figure 6-5 CN-CR small firm comparison**



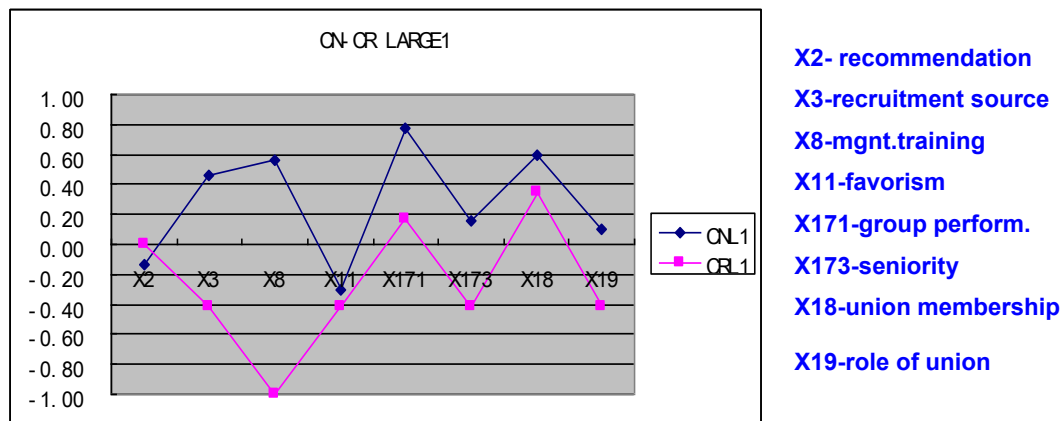
Exceptions on: X3, two groups CN>CR, one group CR>CN; X171(salary depends on group achievements), two groups CN>CR, one group CR>CN. This means that for these two HRM practices, it depend not only on national factor and size but also on other contingent factor of organization.



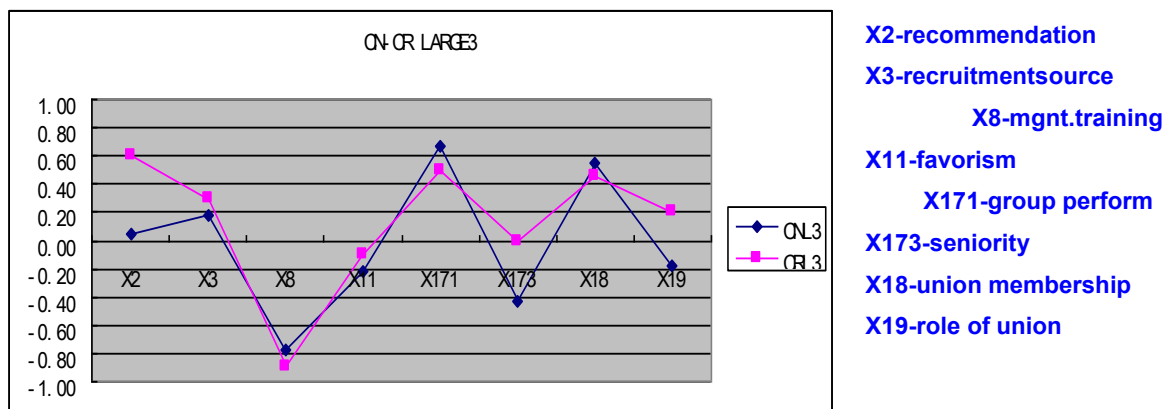
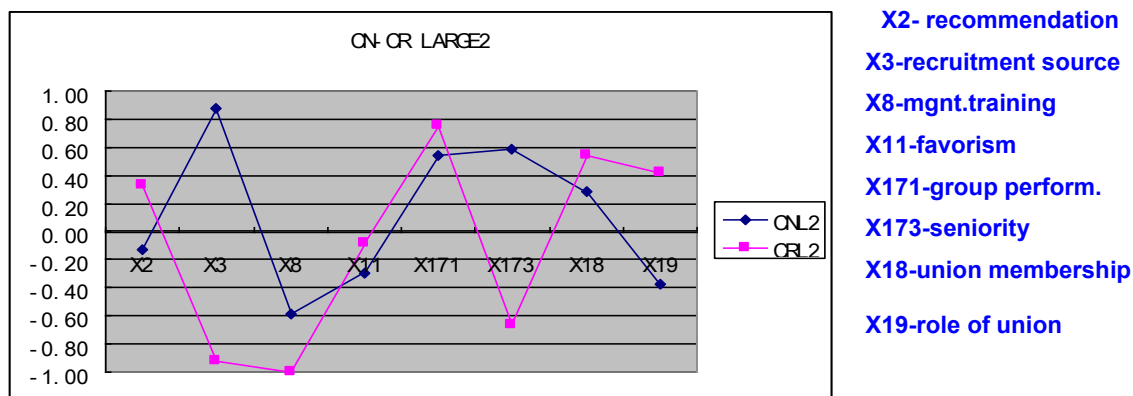


**China large- Czech large:** these three groups show more similarities, in the group cluster3 including more joint ventures and foreign firms, most variables are closed to each other.

**Figure 6-6 CN-CR large firm comparison**



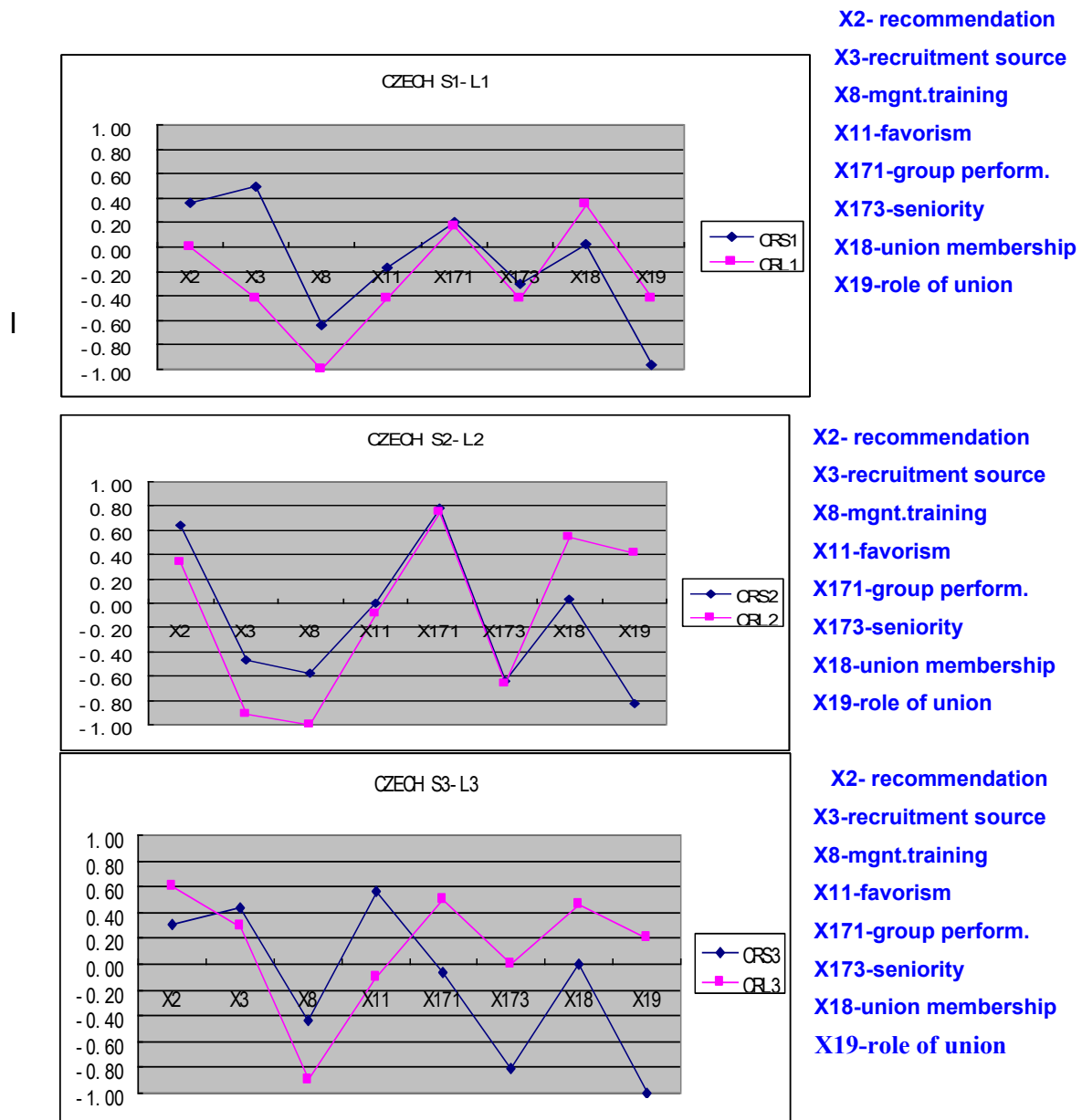
Large firms are similar in terms of X11, X171 and X18. Favoritism is not important, group achievement is given high importance, trade union membership is quite high (0.4-0.6). **Major difference:** X2 CR>CN, X3\* CN>CR, X8 CN>CR, these are in line with previous findings.



Exception is on X173 and X19 which has shown conflicting results. In two clusters, CR> CN on X19, more joint venture and foreign firms in these two clusters, which may have impact on HRM practices. Also it could be caused by other factors, as HR strategy of organization.

**Czech small –Czech large:** Czech firms have present more conformity in comparison to China firms. In the first two groups which represent majority of Czech firms, HRM are closed in terms of X2, X11, X171, X173.

**Figure 6-7 CR small-large firm comparison**



It could be supposed that most Czech firms are similar in these aspects of practices, say: quite important of recommendation to employee selection; favoritism in appraisal is from a little important to moderate; group achievements are quite important on salary; seniority is not important on salary. Major difference cross size: large firms have stronger union than small, accordingly with previous findings. Exception occurred in the small group with 13 firms, X3, X11 is particularly high, and X11\*S>L,

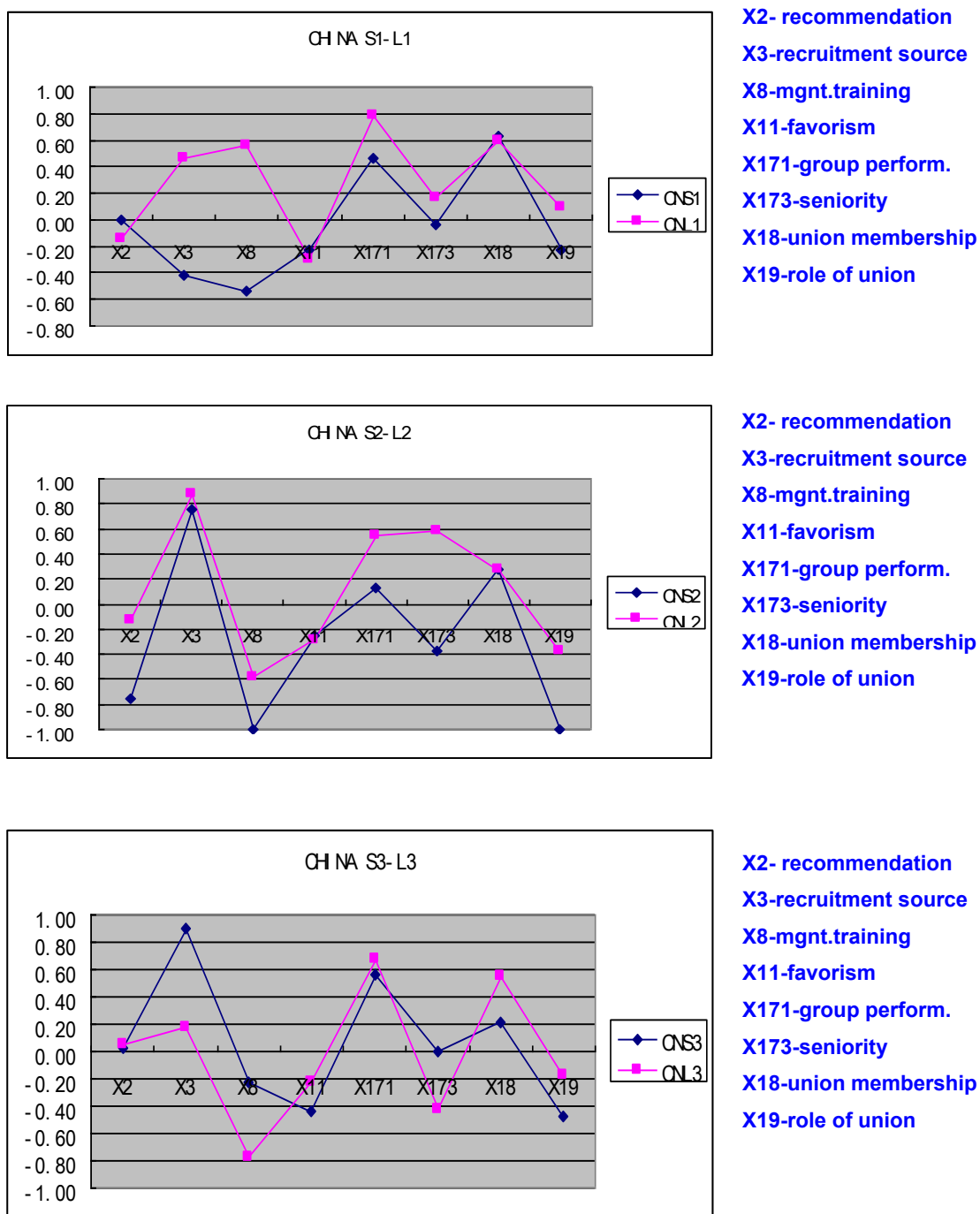
X171 L>S, X173\* L>S. which might be explained by other contingent factors of organization, like organization culture, the stage of life-cycle.

### China small-China large:

In the first cluster, most practices are very similar, in terms of X2, X11, X18. Recommendation is not important in recruitment and selection; favoritism is not common in performance appraisal; union membership is from 0.3 to 0.6.

Major difference cross size: X8 L>S, X171 L>S, X19\*L>S, these are in line with previous findings. Exception is on X3, and X173 which has different result from each cluster group.

Figure 6-8 CN small-large firm comparison



As above mentioned, most results support the previous analysis on national difference and variance analysis on size. Some exceptions happened with X19 CR>CN, X171 CR>CN, X3 CR>CN and X173 S>L. the group with more foreign firms always illustrate different characteristics from other groups. These findings indicate that size and state has interaction when exert influences on HRM practices, also reflect the fact that many other factors co-determine the selection and development of HRM practices in a given organization. It could be ownership, industry, and other factors which are not included in this survey, as strategy of organization, organizational culture and stage of life-cycle so forth. This proved that HRM practices are under the influences of a complex of context factors.

## **6.4 What Are the Recommendations and Implications for Practice?**

### **6.4.1 Recommendations and Implication for Practices to China firms**

It is shown from the results that China firms has disadvantage in several HRM practices compared to Czech firms.

#### ***(1) Use various methods during selection process.***

Reference/recommendation by previous employer or others credentials is one way of informing the judgments of managers to make selection decision. China firms use much less this method than Czech. This method could help confirm facts relevant to personal capability and working experience presented by candidates, and also help get reference about the character of candidates if possible.

China firms rely on application form and not well structured interview, which is not enough to get sufficient information from the candidate especially when the candidate present false and faked application form. Therefore, it is suggested for China firms to use reference as an approach to support their selection process. When selecting person for an important position, more methods of selection should be adopted so as to ensure making a correct decision.

#### ***(2) Balance the external and internal recruitment.***

China firms now mainly use recruitment from external, labour market or other sources. Despite its advantage, it has negative effect on the morale of present employee. The extent of external/internal recruitment should be integrated with the strategy of organization, and compatible to their policy on promotion and talent improvement. The HR dept. should make recruitment plan according to the nature and requirement of vacancy position. For example, for chief or manager's position, if there is any

possibility to fill it through promotion from current employees, it is a very good motivation for staff, benefit to strengthen the healthy organization culture. Another example, for some technician positions, if some employees have the potential, but only need some expertise training, why not support their career development? This way, will encourage employee to learn and to be good. Therefore, recruiting is not an independent job, it should be connected with other HRM function, to support each other.

### ***(3) Training and development for the long run.***

China small firm normally have lower training expense than large firms, less importance on group achievement, and less importance of trade union. In order to get long-term development and increase their competitiveness in the market, they have to pay more concern to training their own employee, lack of financial fund should not be taken as an excuse.

Small company usually focus on short-run performance like the sales increase month by month, turnover increase season by season, therefore, they use some performance related pay to stimulate individuals, esp. salesmen, or piece work pay for workers. However, for the well-being of organization, for the development of a healthy and cooperative organization culture, they should also pay attention to the improvement of performance in the long-run, take care of group work, team building. The feedback and communication on appraisal result should be increased, although it is a challenge in China organization because of “fear of losing face”.

### ***(4) Increase the level of employee empowerment and participation.***

Although there is no agreement on what is the best practice, or high performance practices, there is a well accepted advice in that “improve the HRM policies and practices in each functions and more importantly integrate them to strengthen the motivation of employees.”

For China firms, this is a particularly hard job and long way to go, due to two reasons. Firstly, it seems a long-standing problem in many organizations that the communication and cooperation between functional units or between groups are difficult. This will influence the implementation of any integrated plan or action. Secondly, there is a tradition of obedience culture in most of organization because fear of making mistakes, because respect of authority leadership. Employee has no idea of empowerment and participation. According to the management grid, it belongs to the style of task management.[\[6\]](#).

However, to face the challenge from increasingly competition from local market as well global market, organization have to develop their competitiveness advantage, and innovation and highly motivated employee are the core. Empowerment and

employee participation has become necessary.

#### **6.4.2 Recommendations and Implication for Practice to Czech Firms**

(1) ***Balance the external and internal recruitment.*** Czech firms generally have much higher level of internal recruitment than China firms. While internal recruitment has benefits like improved morale, commitment and security among employees, lower exposure to market forces. However, the downside can be high levels of political behavior associated with advancement, informal 'glass ceilings', and structural shocks when major market and technological changes happened. Therefore, Czech firms should also make specific recruitment planning which compatible to their organization strategy and talent improvement policies, as well according to different position. This will bring more efficiency and benefit from recruitment to organization.

(2) ***To strengthen the position and the role of HR department.*** From the survey, it was found that Czech firm has lower expense on training, informal performance appraisal process. This could be a signal of lack of HR strength. HR staff also needs training on professional knowledge and skills. Only when HRs are professional and have strong position, they could make HR strategy and develop a series of compatible policies and practices to support the organization's strategy and performance. For Czech firms, training and development of employee is particularly important, because Czech is well-known for its well educated and skillful labor force and this high valued human capital is one of most important advantage attracting FDI to Czech, together with other attractive conditions. Therefore, it is critical to ensure this advantage and maintain the tradition of training and vocational education in Czech history. The relationship of strength of HRM system with organizational performance was supported and had an impact on organizational innovation performance. [\[29\]](#)

(3) ***Increase the status of trade union.*** Among small company, trade union seems has no function or weak status. Perhaps it is necessary to increase the status of trade union in their organization, so as to protect the benefits of employee through collective bargaining and negotiation.

#### **6.5 What Was Tested and Implication for Theory and Practice?**

##### ***(1) Hypothesis was tested.***

H1. Czech and China are both transition economies, but the way is different during transition. This may have reflection on their industrial relations and HRM practices in some degree, even though the influence may not be directly.

This hypothesis is supported in Chapter 3, comparison on the HRM context of Czech and China. Since it is not a directly casual relation, it is hard to say whether tested or not. But this opinion could be understood in many sections of this paper.

H2. The difference of HRM practices across countries could be explained by both cultural and institutional context.

In chapter 5, the HRM difference between Czech and China has been explained in the context of each country. Both cultural and institutional context factors were taken into account. For instance, the difference of recruitment and selection was explained by the culture value of Czech and China, as well by labour market. For instance, when explain performance appraisal difference, both cultural value and society customs was used. And the remarkable difference on trade union was explained in chapter 3, which has proved that there is quite different system of union and industrial relations in these two countries. Therefore, this hypothesis was fully supported by this study.

H3. The type of ownership of organization could explain partially HRM difference among different firms.

In the part of methodology, analysis on ownership found difference of some variables, significant difference on four Appraisal objectives and variable pay forms, and foreign firms have big difference from local firms. In the further cross comparison of Czech and China clusters on size, for example, Czech large-China large, exceptions occurred in a certain cluster with more joint ventures and foreign firms, it could be supposed that ownership may have impact on the HRM practice. Therefore, this hypothesis was supported by this study.

H4: There is significant difference between the culture of Czech and China, it is expected that HRM practices in Czech would be quite different from China. But the degree of difference may vary in different functional area of HRM.

This study has conducted a series of analysis on the data from survey, description analysis, Variance analysis and cluster analysis all supported that there were significant difference between Czech and China HRM practices, and in some functional areas with more difference as Performance appraisal, trade union, some areas with both similarities and difference as Recruitment& Selection, Training & development. Thus, this hypothesis if fully tested by this study.

***(2) Hofstede's culture values was proved to be able to explain some HRM difference in this study.*** Some of the dimensions were used more often than others. For instance, the dimension of individualism/collectivism help explain the Czech preference on salary level depending on individual performance, pay negotiated on individual level, China firms consider on groups objectives when deciding salary, and

pay on company or industry level. Together with Power distance, it also explains the performance appraisal approach. Another more used index is uncertainty avoidance, this somehow explain the recruitment source. But this index failed to explain why Czech a high UAI culture has not used much test types when selecting candidates, the masculine/feminine index also cannot explain why Czech has more informal selection than China.

Hofstede's national culture value is a useful reference to explain cross-national difference on HRM practice, but it is better to combine with other culture knowledge in a given country, such as "Guanxi" in China culture. In addition, culture value is not isolated, it should be considered within the comprehensive context of a given country, which includes culture, institutional context and contingent variables at organizational level.

(3) In this paper, broad national factors of national culture, institutions and business environment have been described, these have been identified as significant determinant of resultant HRM policies and practices. This is in line with the existing research stating that HR policies and practices of firms are heavily shaped by contextual contingencies, including national, sectoral and organizational factors[9]. In addition, this study has proved that size, ownership and industry also have influence on certain of HRM practices. These factors together with technology, age and life-cycle stage etc. constitute of the contingent variables. These are the main mediating factors on which the influence of national factors has been seen 'to depend'. [17]

## **6.6 What Are the Limitations of this Study and the Implication for Further Study?**

Comparative HRM study is a relatively new area, particularly in China, there is very limited literature to refer. At the same time, it is not easy to obtain full scaled data from companies, the data from questionnaire is limited compared to the requirement of a complex comparative study. This study is at the level of exploration in this academic field.

However, as this study is the first systemic comparative study between Czech and China firms, with its useful methodology and a number of important findings, it is proved to be a valuable exploration. The analysis was fully conducted and findings were supported by relevant research.

Further study will research the relationship on HRM-Performance in China and Czech Republic with a contextual approach. In addition to national context factors and contingent variables, organizational strategy would be added in the context model.



The organizational strategy and policies is difficult to get from only questionnaire, it need more in-depth interview, case study and long time on-site investigation in firms.

Suggestion on questionnaire, a few more contingent variables should be added in the questionnaire, such as the structure, level of technology adopted, life cycle stage of organization. Multiple choice questions should be more cautiously to use. This type of question can help get more information and easy for correspondents to answer, but will increase the difficulties of analysis. Because the data and variable from multiple choice questions have to be processed individually, and during analysis process, it will lead to missing value which might affects the number of cases included. It is advised to split a multiple choice question into a few single choice questions to get the same result. However, with the question on preference, it is still necessary to use the type of multiple- choice question.

In order to be able to track changes in each country, longitudinal studies in this area is expected. The author will try her best to continue the study in China and Czech Republic, devote to valuable research which would benefit both countries. It is believed that the added knowledge should lead to better understanding and improve business cooperation between Czech and China companies.

## Conclusion

This thesis aimed to compare the specific practices of HRM in China and Czech firms and to find out the major difference between. Through the large amount of study and research work, these aims were achieved.

In order to realize the goals of this thesis, two parallel lines of working have been structured and managed. One line includes the literature review and the study on the HRM context of the Czech Republic and China, hypothesis and identification of possible clues to interpret cross-cultural HRM practice.

The other line consists of survey and methodology work, concentrates on action, communication during survey, and data processing and full-scale analysis. The method of data processing and the design of integrated methodology system in this study represents an innovative application and has proved to be very useful for the empirical research on comparative HRM study. This study and the proceeded cluster and Anova analyses have found out that :

- the context of HRM in Czech Republic and China has differs, and as supposed, HRM practice has also significant differences. The fourth hypothethesis is fully supported. In addition, these differences could be explained by cultural and institutional context. This supported the second hypothesis of this study.
- HRM practices are influenced by contingent factors as size, ownership and industry. This preposition was supported by both Anova analysis and cluster analysis. Therefore, the third hypothesis is supported.
- Cluster analysis indicated generally that Czech firms have significant lower level than China firms in the 7 variables and in two higher. It is supported by the results from description analysis.
- Aside the state, industry or size, there exist two patterns of HRM practices which have shown obvious variances in a certain of HRM functions.
- It seems that stronger union, tends to accompany with a more formal Human resource management system. The cluster with more large firms has more formal HRM practices than cluster with prevailing small firms. In cluster with more manufacturing businesses, there were more formal HRM practices than in clusters focused on service business.
- Within the controlled experiment on size and state, most of the results are accordingly with previous study. However, some exceptions do occur, which remind us that size and state have interaction when exert influences on HRM practices, also reflect the fact that many other factors co-determine the selection

and development of HRM practices in a given organization. This need further study in the future.

Based on the above findings some practical recommendation are given to Czech firms and China firms respectively. I believe that recognizing the differences and their management are critical for successful international cooperation between Czech and China firms.

The theory of Hofstede's national culture value is a useful reference to explain cross-national difference on HRM practice, but it is better to combine it with other culture knowledge in a given country. In addition, culture value is not isolated, it should be considered within the comprehensive context of a given country, which includes culture, institutional context and contingent variables at organizational level.

Comparative HRM study is a relatively new area, particularly in China, there is very limited literature to refer. At the same time, it is not easy to obtain full scaled data from companies, the data from questionnaire is limited compared to the requirement of a complex comparative study. This study is at the level of exploration in this academic field. In order to track changes in the two countries, long-term studies of HRM practices are necessary.

## Závěr

Disertace měla za cíl srovnat specifické praktiky řízení lidských zdrojů (ŘLZ) v českých a čínských firmách a zjistit hlavní rozdíly mezi nimi. Dosažení cílů bylo podpořeno studiem velkého množství zdrojů a zpracováním průzkumu v obou zemích.

Práce má dvě hlavní linie. První zahrnuje přehled dostupné literatury a studium multiukulturního prostředí ovlivňujícího ŘLZ v obou zemích, stanovuje hypotézy a identifikuje možné rozdíly a jejich příčiny.

Druhá linie aplikuje zvolenou metodologii práce v podobě průzkumu a související komunikace. Následně jsou získaná data zpracována a analyzována prostřednictvím klastrové a Anova analýzy. Výstupy studie mj. odhalily, že:

- ŘLZ v ČR a Číně se dost liší stejně jako podmínky jej ovlivňující. Čtvrtá hypotéza se tak plně prokázala jako správná, a protože příčiny rozdílů jsou převážně kulturního a institucionálního charakteru, je správná i druhá hypotéza práce.
- ŘLZ je ovlivněno různými faktory jako je velikost, vlastnictví a oblast podnikání. Třetí hypotéza je tak podpořena jak Anova tak klastrovou analýzou.
- Klastrová analýza označila 7 proměnných, ve kterých české firmy dosahují významně nižších hodnot než čínské. Ve dvou dosahují vyšší. Tato tvrzení podporují výsledky popisné analýzy.
- Bez ohledu na situaci, průmysl či velikost podniku, existují dva vzory praktik ŘLZ, které prokazují významné rozdíly v určitých funkcích ŘLZ.
- Zdá se, že silnější odbory se pojí s více formálním ŘLZ. Klastr s více velkými firmami mají také formálnější praktiky než klastry s menšími firmami. Obdobně v klastru s výrobními podniky jsou spíše formální praktiky ŘLZ než v klastru s firmami zaměřenými na služby.
- V rámci řízeného experimentu podle velikosti a finanční situace firmy byla většina výsledků v souladu s výsledky předchozí studie. Přesto se objevily nějaké výjimky, které potvrdily, že velikost a finanční situace spolu souvisejí, co se týče jejich vlivu na ŘLZ. Také potvrzují, že mnoho dalších faktorů spoluurčuje výběr a vývoj praktik ŘLZ ve zkoumaných organizacích a je potřeba dalších studií.

Na základě uvedených zjištění práce nabízí několik doporučení jak českým tak čínským firmám. Věřím, že uvědomění si rozdílů v ŘLZ a jejich vhodné řízení jsou kritické pro budoucí úspěšnou mezinárodní spolupráci firem obou zemí.

Hofstedeova teorie kulturních hodnot je užitečnou referencí pro vysvětlení mezinárodních rozdílů, ale je lepší ji kombinovat s dalšími poznatky o kulturách sledovaných zemí. Navíc kultura není izolovaná od ostatních faktorů a musí být

zvážena ve více souvislostech.

Srovnávací studie ŘLZ je relativně novou tématikou zejména z pohledu Číny, kde je jen velmi málo související literatury. Zároveň není jednoduché získat kompletní data z oslovených firem. Tato studie je na úrovni akademického bádání. Za účelem sledování změn v obou zemích je potřeba dlouhodobějších studií jejich praktik ŘLZ.

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# Annex 1 HRM Survey Questionnaire

## Recruitment and Selection

**(1) Rank the selection methods used in your company by order of preference. (write the rank number after the method. Write x after methods not used)**

1. Application form [ ] 2. Assessment centre [ ] 3. One-to-one interview [ ]  
4. Psychometric test [ ] 5. Interview panel [ ] 6. References [ ]

**(2) Is it important of recommendation?**

1. not at all important 2. slightly important 3. moderately important  
4. quite important 5. very important

**(3) Internal/external recruitment ?**

1. mostly internally. 2. somewhat internally 3. balanced 4. somewhat externally 5. mostly externally

**(4) Selection criteria based on informal qualifications ?**

1. not at all 2. slightly 3. moderate 4. much 5. very much

## Training and Development

**(1) Vocational education and training ?**

1. not at all important 2. slightly important 3. moderately important  
4. quite important 5. very important

**(2) Rank the training methods used in your company by order of preference. (write the rank number after the method. Write x after methods not used)**

1. On-the-job training [ ] 2. External training [ ] 3. Qualification training (licenses, certifications, etc ) [ ]  
4. Lectures [ ] 5. Study in group [ ] 6. Case study [ ]

**(3) Averagely how much percentage of turnover is spent on non-managerial employee's training per year?**

1. 0.01-0.50% 2. 0.51-1.00% 3. 1.01-2.00% 4. 2.01-4.00% 5. 4.01% and over

**(4) Averagely how much percentage of turnover is spent on managerial employee's training per year?**

1. 0.01-0.50% 2. 0.51-1.00% 3. 1.01-2.00% 4. 2.01-4.00% 5. 4.01% and over

## Performance appraisal

**(1) Methods used in appraising employee performance?**

1. personal interview between supervisor-subordinate, 2. informal/non-written feedback  
3. written reports

**(2) People who participate in employee performance appraisal ?**

1. supervisor 2. employee himself 3. Peers 4. subordinates

**(3) Extent to which favoritism influence performance appraisal ?**

1. not at all 2. to a small extent 3. to a moderate extent 4. much 5. very much

**(4) Evaluation primarily based on process or results?**

1. mainly on process 2. both on process and results 3. mainly on results

**(5) Rank the Primary objectives of employee performance appraisal in your company by order of preference. (write the rank number after the objective, Write x after items not used)**

1. for pay [ ] 2. for performance improvement [ ] 3. for identifying training needs [ ]  
4. for promotion [ ] 5. for career development [ ]

### Compensation

**(1) Basic pay is determined at which level?**

1. national/industry level 2. company level 3. Individual level

**(2) Variable pay components?**

1. profit-sharing 2. share options 3. bonuses

**(3) Percentage of temporary contracts ( \_\_\_%)?**

**(4) Importance of several items on decisions relating to salary levels? ( choose one point for each row )**

	not at all important	slightly important	moderately important	quite important	Very important
Achievement of group objectives	1	2	3	4	5
Individual performance	1	2	3	4	5
Employee age/seniority	1	2	3	4	5
Training level	1	2	3	4	5
Experience	1	2	3	4	5

### Trade Union

**(1) Proportion of employee who are members of a trade union is \_\_\_%.**

**(2) Role of trade union ?**

1. not at all 2. to a small extent 3. to a moderate extent 4. strong 5. very strong

### Company profile

**(1) How many employees does your company have?**

1. 1~50 2. 51~200 3. 201~500 4. more than 500

**(2) What is the ownership of your company?**

1. Czech company 2. joint-venture 3. foreign company

**(3) Which industry does your company belong to?**

1. manufacturing industry 2. building industry 3. transportation industry

4. information industry 5. others (please note)

**Thank you for your time and support!**

## Annex 2 Dotazník z oblasti řízení lidských zdrojů (ŘLZ)

Průzkum pro disertační práci Jun Li (ČLR), studentku doktorského studia na VŠB – TU Ostrava

### Přijímání a výběr zaměstnanců

(1) Seřad'te metody výběru zaměstnanců, které užíváte ve Vaší organizaci, podle intenzity jejich využití. (Za každou metodu napište pořadové číslo (1=nejvíce, atd.). Pokud danou metoda nepoužíváte, napište za ni „x“.)

1. Příhláška [ ] 2. Hodnotící centrum [ ] 3. Osobní pohovor [ ]  
4. Psychometrický test [ ] 5. Assessment centre [ ] 6. Reference [ ]

(2) Jak důležité je při výběru doporučení? \*

1. není vůbec důležité 2. je trochu důležité 3. středně důležité 4. celkem důležité 5. velmi důležité

(3) Interní/externí nábor? \*

1. hlavně interní. 2. spíše interní 3. vyvážený 4. spíše externí 5. hlavně externí

(4) Kritéria výběru jsou založena na neformální kvalifikaci? \*

1. vůbec ne 2. částečně 3. středně 4. velmi 5. převážně

### Vzdělávání a rozvoj

(1) Profesní vzdělání a výcvik.. \*

1. nejsou vůbec důležité 2. jsou mírně důležité 3. jsou středně důležité 4. jsou celkem důležité 5. jsou velmi důležité

(2) Seřad'te vzdělávací metody používané ve Vaší organizaci podle pořadí důležitosti. (Za každou metodu napište pořadové číslo (1=nejvíce, atd.). Pokud se daná metoda nepoužívá, napište za ni „x“.)

1. Školení při práci [ ] 2. Externí školení [ ] 3. Odborná školení (oprávnění, licence, certifikace atd. ) [ ]  
4. Přednášky [ ] 5. Skupinové studium [ ] 6. Případové studie [ ]

(3) Kolik procent obrátu se ve Vaší firmě ročně průměrně vynakládá na školení nemanážerského personálu? \*

1. 0.01-0.50% 2. 0.51-1.00% 3. 1.01-2.00% 4. 2.01-4.00% 5. 4.01% a více

(4) Kolik procent obrátu se ve Vaší firmě ročně průměrně vynakládá na školení manažerského personálu? \*

1. 0.01-0.50% 2. 0.51-1.00% 3. 1.01-2.00% 4. 2.01-4.00% 5. 4.01% a více

### Hodnocení výkonu

(1) Jaké metody používáte k hodnocení výkonu zaměstnanců? (i více variant) \*

1. osobní pohovor mezi nadřízeným a podřízeným  
2. neformální / nepsané hodnocení  
3. psaná zpráva

(2) Kdo se podílí na hodnocení výkonu zaměstnance? (i více variant) \*

1. nadřízený 2. dotyčný zaměstnanec 3. kolegové 4. podřízení

(3) Do jaké míry je hodnocení výkonu subjektivní? \*

1. vůbec ne 2. malou měrou 3. středně 4. velmi 5. značně

**(4) Je hodnocení založeno na procesech či výsledcích? \***

1. hlavně na procesech 2. jak na procesech tak na výsledcích 3. hlavně na výsledcích

**(5) Seřad'te důvody hodnocení výkonu zaměstnance ve Vaší organizaci podle pořadí jejich důležitosti (Za každý důvod napište pořadové číslo (1=nejvýznamnější, atd., případně „x“, pokud není vůbec významný.)**

1. plat [ ] 2. zlepšení výkonu [ ] 3. hledání oblastí, ve kterých je nutno dále školit [ ]  
4. povýšení [ ] 5. kvůli kariérnímu vývoji [ ]

**Odměna za práci**

**(1) Na jaké úrovni je stanoven základní plat? \***

1. národní úroveň / úroveň běžná v daném průmyslu 2. firemní úroveň (firemní mzdové tabulky)  
3. individuální úroveň

**(2) Pohyblivou složku platu tvoří\***

1. podíl na zisku 2. akcie 3. bonusy / odměny

**(3) Jaké je procento smluv na dobu určitou ( \_\_\_%)?**

**(4) Jaká je důležitost následujících faktorů při rozhodování o úrovni platu (Vyberte jednu položku na každém řádku)**

	nedůležité	mírně důležité	středně důležité	celkem důležité	velmi důležité
Dosažení skupinových cílů	1	2	3	4	5
Individuální výkon	1	2	3	4	5
Věk / služební věk zaměstnance	1	2	3	4	5
Míra zaškolení	1	2	3	4	5
Zkušenost	1	2	3	4	5

**Odbory**

**(1) Jak velká část Vašich zaměstnanců je v odborech? \_\_\_%.**

**(2) Jakou úlohu hrají odbory? \***

1. žádnou 2. malou 3. střední 4. silnou 5. velmi silnou

**Firemní profil**

**(1) Kolik zaměstnanců má Vaše firma / organizace? \***

1. 1~50 2. 51~200 3. 201~500 4. více než 500

**(2) Vlastnická struktura vaší firmy?**

1. Český vlastník 2. Česká firma se zahraničním partnerem/spoluvlastníkem

3. Firma se zahraničním vlastníkem

**(3) Do jaké podnikatelské sféry spadá Vaše firma? \***

1. průmysl, energetika    2. stavebnictví    3. obchod

4. služby

5. finance

6. jiný (Prosím, uveďte

jaký) \_\_\_\_\_

**(4) Osoba, která vyplnila tento dotazník pracuje (doplňte u odpovídající úrovně managementu):**

1. V top managementu jako \_\_\_\_\_

2. Ve středním managementu jako \_\_\_\_\_

3. Není na manažerské pozici, pracuje jako \_\_\_\_\_

**Děkuji za Váš čas i spolupráci!**

## Annex 3 人力资源管理调查问卷

### 招募与选拔

(1) 选出贵公司选拔人员的方法, 并对所选方法按照使用偏好程度进行排序(排列序号请标注在选项后的括号内, 在未采用的选拔方法后请标注 X)

1. 申请表 [ ] 2. 评价中心 [ ] 3. 一对一面试 [ ]  
4. 心理测试 [ ] 5. 面试委员会 [ ] 6. 推荐 [ ]

(2) 推荐或者熟人关系的重要程度?

1. 一点都不重要 2. 有一点重要 3. 一般  
4. 比较重要 5. 非常重要

(3) 内部招募/外部招募 ?

1. 绝大多数从内部招募 2. 一定程度上内部招募 3. 内外部均衡 4. 一定程度上从外部招募 5. 绝大多数从外部招募

(4) 以非正式条件为基础的选拔尺度(相对于正式条件, 非正式条件指性别, 年龄, 相貌, 家庭背景, 关系资源等)?

1. 根本没有 2. 有一点 3. 一般 4. 多 5. 非常多

### 培训与开发

(1) 职业教育与培训 ?

1. 一点都不重要 2. 有一点重要 3. 一般  
4. 比较重要 5. 非常重要

(2) 选出贵公司培训员工的方式, 并对所选方法按照使用偏好程度进行排序(排列序号请标注在选项后的括号内, 在未采用的选拔方法后请标注 X)

1. 在职培训 [ ] 2. 外部培训 [ ] 3. 资质培训 (证书, 学历等) [ ]  
4. 课堂讲授 [ ] 5. 小组学习 [ ] 6. 案例讨论学习 [ ]

(3) 平均每年用于非管理岗位员工培训的费用大约占公司年销售收入的多少比例?

1. 0.01-0.50% 2. 0.51-1.0% 3. 1.01-2.0% 4. 2.01-4.0% 5. 4.0%以上

(4) 平均每年用于管理岗位员工培训的费用大约占公司年销售收入的多少比例?

1. 0.01-0.50% 2. 0.51-1.0% 3. 1.01-2.0% 4. 2.01-4.0% 5. 4.0% 以上

### 绩效评估

(1) 贵公司使用哪些方法进行员工绩效评估?

1. 上司和下属之间的个人面谈 2. 非正式/口头形式的反馈 3. 书面报告

(2) 员工绩效评估工作的参与者有哪些?

1. 上司 2. 被评估员工本人 3. 同事 4. 下属

(3) 偏袒和私人关系对绩效评估的影响程度怎样?

1. 一点也不 2. 有一点影响 3. 有一定程度影响 4. 有比较大的影响 5. 非常大的影响

(4) 绩效评估主要基于过程还是结果?

1. 主要基于过程 2. 过程与结果兼顾 3. 主要基于结果

(5) 贵公司绩效评估的主要目标是什么? 并请根据偏好顺序对选项进行排序(用阿拉伯数字), 没有使用



### 的选项后标注 X

- 1.为了支付薪酬 [ ] 2.为了提高工作绩效 [ ] 3.为了识别培训需求 [ ]  
4.为了晋升 [ ] 5.为了职业发展 [ ]

### 薪酬

(1) 在哪个层次上决定基本工资的水平?

- 1.国家/行业层次 2.公司层次 3. 个人层次

(2) 可变薪酬有哪些方式?

- 1.利润分享 2. 公司股权/期权 3. 奖金

(3) 临时合同工占公司员工的比例 ( \_\_\_\_%)?

(4) 影响工资水平的若干因素的重要程度排序 (每行仅选择一个分值)

因素 度 \ 重要程	一点都不重要	有一点重要	一般	比较重要	非常重要
完成团队任务目标	1	2	3	4	5
个人业绩	1	2	3	4	5
员工年龄/资历	1	2	3	4	5
培训水平	1	2	3	4	5
经验	1	2	3	4	5

### 工会

(1) 工会会员约占员工总数的比例为 \_\_\_\_%.

(2) 工会的作用?

1. 根本没有作用 2.有一点作用 3. 有一定的作用 4. 作用比较强大 5. 作用非常强大

### 贵公司基本信息

(1) 贵公司有多少员工?

1. 1~50 2. 51~200 3. 201~500 4. more than 500

(2) 贵公司的所有制形式?

- 1.中国本土公司 2. 中外合资公司 3.外资公司

(3) 贵公司属于哪个行业?

1. 制造业 2. 建筑业 3. 运输业  
4. 信息工业 5.其它 (敬请注明)

衷心感谢您的支持与合作!

## Annex 4 Multiple Comparisons on Size

Dependent Variable	(I) size	(J) size	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
salarly level depends on group objectives	1-50	51-200	.551(*)	.212	.010	.13	.97
		201-*500	.043	.237	.856	-.43	.51
		above 500	-.234	.206	.257	-.64	.17
	51-200	1-50	-.551(*)	.212	.010	-.97	-.13
		201-*500	-.508(*)	.221	.022	-.94	-.07
		above 500	-.786(*)	.186	.000	-1.15	-.42
	201-*500	1-50	-.043	.237	.856	-.51	.43
		51-200	.508(*)	.221	.022	.07	.94
		above 500	-.277	.214	.197	-.70	.15
	above 500	1-50	.234	.206	.257	-.17	.64
		51-200	.786(*)	.186	.000	.42	1.15
		201-*500	.277	.214	.197	-.15	.70
salarly level depends on seniority	1-50	51-200	-.294	.227	.197	-.74	.15
		201-*500	-1.094(*)	.254	.000	-1.59	-.59
		above 500	-.473(*)	.220	.033	-.91	-.04
	51-200	1-50	.294	.227	.197	-.15	.74
		201-*500	-.800(*)	.236	.001	-1.27	-.33
		above 500	-.179	.199	.371	-.57	.21
	201-*500	1-50	1.094(*)	.254	.000	.59	1.59
		51-200	.800(*)	.236	.001	.33	1.27
		above 500	.621(*)	.229	.007	.17	1.07
	above 500	1-50	.473(*)	.220	.033	.04	.91
		51-200	.179	.199	.371	-.21	.57
		201-*500	-.621(*)	.229	.007	-1.07	-.17
union membership	1-50	51-200	-.197197(*)	.082584	.018	-.36037	-.03403
		201-*500	-.369865(*)	.093061	.000	-.55374	-.18599
		above 500	-.404135(*)	.080118	.000	-.56243	-.24584
	51-200	1-50	.197197(*)	.082584	.018	.03403	.36037
		201-*500	-.172668	.087671	.051	-.34589	.00055
		above 500	-.206939(*)	.073788	.006	-.35273	-.06115
	201-*500	1-50	.369865(*)	.093061	.000	.18599	.55374
		51-200	.172668	.087671	.051	-.00055	.34589
		above 500	-.034270	.085352	.689	-.20291	.13437
	above 500	1-50	.404135(*)	.080118	.000	.24584	.56243
		51-200	.206939(*)	.073788	.006	.06115	.35273

		201-*500	.034270	.085352	.689	-.13437	.20291
Role of Union	1-50	51-200	-.570(*)	.223	.011	-1.01	-.13
		201-*500	-1.191(*)	.249	.000	-1.68	-.70
		above 500	-1.686(*)	.216	.000	-2.11	-1.26
	51-200	1-50	.570(*)	.223	.011	.13	1.01
		201-*500	-.621(*)	.229	.008	-1.07	-.17
		above 500	-1.116(*)	.194	.000	-1.50	-.73
	201-*500	1-50	1.191(*)	.249	.000	.70	1.68
		51-200	.621(*)	.229	.008	.17	1.07
		above 500	-.495(*)	.223	.028	-.94	-.05
	above 500	1-50	1.686(*)	.216	.000	1.26	2.11
		51-200	1.116(*)	.194	.000	.73	1.50
		201-*500	.495(*)	.223	.028	.05	.94

\* The mean difference is significant at the .05 level.

## Annex 5 Multiple comparison on Ownership

Dependent Variable	(I) ownership	(J) ownership	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
appraisal objective-for pay	local company	joint venture	-.055	.421	.896	-.89	.78
		foreign company	-1.082(*)	.309	.001	-1.69	-.47
	joint venture	local company	.055	.421	.896	-.78	.89
		foreign company	-1.027(*)	.483	.035	-1.98	-.07
	foreign company	local company	1.082(*)	.309	.001	.47	1.69
		joint venture	1.027(*)	.483	.035	.07	1.98
appraisal objective-for performance improvement	local company	joint venture	-.736(*)	.266	.006	-1.26	-.21
		foreign company	.170	.173	.328	-.17	.51
	joint venture	local company	.736(*)	.266	.006	.21	1.26
		foreign company	.906(*)	.296	.003	.32	1.49
	foreign company	local company	-.170	.173	.328	-.51	.17
		joint venture	-.906(*)	.296	.003	-1.49	-.32
appraisal objective-for promotion	local company	joint venture	1.083(*)	.378	.005	.33	1.83
		foreign company	-.125	.255	.625	-.63	.38
	joint venture	local company	-1.083(*)	.378	.005	-1.83	-.33
		foreign company	-1.208(*)	.421	.005	-2.04	-.37
	foreign company	local company	.125	.255	.625	-.38	.63
		joint venture	1.208(*)	.421	.005	.37	2.04
variable forms-bonus pay	local company	joint venture	.256(*)	.096	.009	.07	.45
		foreign company	-.097	.066	.146	-.23	.03
	joint venture	local company	-.256(*)	.096	.009	-.45	-.07
		foreign company	-.352(*)	.109	.001	-.57	-.14
	foreign company	local company	.097	.066	.146	-.03	.23
		joint venture	.352(*)	.109	.001	.14	.57

union membership	local company	joint venture	-.039912	.112606	.723	-.26239	.18256
		foreign company	.169731(*)	.081133	.038	.00944	.33002
	joint venture	local company	.039912	.112606	.723	-.18256	.26239
		foreign company	.209643	.129099	.106	-.04542	.46470
	foreign company	local company	-.169731(*)	.081133	.038	-.33002	-.00944
		joint venture	-.209643	.129099	.106	-.46470	.04542

## Annex 6 Multiple Comparisons on Industry

LSD

Dependent Variable	(I) industry	(J) industry	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
importance of Training	manufacturing industry	building industry	.036	.212	.866	-.38	.46
		transportation industry	1.448(*)	.361	.000	.74	2.16
		IT industry	-.149	.296	.615	-.73	.44
		others/service industry	.074	.162	.648	-.25	.39
	building industry	manufacturing industry	-.036	.212	.866	-.46	.38
		transportation industry	1.412(*)	.384	.000	.65	2.17
		IT industry	-.185	.325	.569	-.83	.46
		others/service industry	.038	.209	.855	-.38	.45
	transportation industry	manufacturing industry	-1.448(*)	.361	.000	-2.16	-.74
		building industry	-1.412(*)	.384	.000	-2.17	-.65
		IT industry	-1.597(*)	.436	.000	-2.46	-.74
		others/service industry	-1.374(*)	.359	.000	-2.08	-.66
	IT industry	manufacturing industry	.149	.296	.615	-.44	.73
		building industry	.185	.325	.569	-.46	.83
		transportation industry	1.597(*)	.436	.000	.74	2.46
		others/service industry	.224	.294	.448	-.36	.80
	others/service industry	manufacturing industry	-.074	.162	.648	-.39	.25
		building industry	-.038	.209	.855	-.45	.38
		transportation industry	1.374(*)	.359	.000	.66	2.08
		IT industry	-.224	.294	.448	-.80	.36
appraisal method-written reports	manufacturing industry	building industry	-.168	.111	.132	-.39	.05
		transportation industry	.107	.189	.573	-.27	.48
		IT industry	-.049	.155	.751	-.36	.26
		others/service industry	.216(*)	.085	.012	.05	.38

appraisal participants-s upervisor	building industry	industry					
		manufacturing	.168	.111	.132	-.05	.39
		industry					
		transportation	.275	.201	.174	-.12	.67
		industry					
	transportation industry	IT industry	.119	.170	.485	-.22	.45
		others/service	.385(*)	.110	.001	.17	.60
		industry					
		manufacturing	-.107	.189	.573	-.48	.27
		industry					
	IT industry	building industry	-.275	.201	.174	-.67	.12
		IT industry	-.156	.228	.496	-.61	.29
		others/service	.110	.188	.559	-.26	.48
		industry					
		manufacturing	.049	.155	.751	-.26	.36
	others/service industry	industry					
		building industry	-.119	.170	.485	-.45	.22
		transportation	.156	.228	.496	-.29	.61
		industry					
		others/service	.266	.154	.086	-.04	.57
	manufacturing industry	industry					
		manufacturing	-.216(*)	.085	.012	-.38	-.05
		industry					
		building industry	-.385(*)	.110	.001	-.60	-.17
		transportation					
	building industry	industry	-.110	.188	.559	-.48	.26
		IT industry	-.266	.154	.086	-.57	.04
		building industry					
		manufacturing	.065	.056	.249	-.05	.17
		industry					
	transportation industry	transportation	.378(*)	.095	.000	.19	.56
		industry					
		IT industry	-.051	.078	.514	-.20	.10
		others/service	-.020	.043	.638	-.10	.06
		industry					
	building industry	manufacturing	-.065	.056	.249	-.17	.05
		industry					
		transportation	.313(*)	.101	.002	.11	.51
		industry					
		IT industry	-.115	.085	.178	-.28	.05
	transportation industry	others/service	-.085	.055	.126	-.19	.02
		industry					
		manufacturing	-.378(*)	.095	.000	-.56	-.19
		industry					
		building industry	-.313(*)	.101	.002	-.51	-.11
		IT industry	-.429(*)	.115	.000	-.65	-.20

	IT industry	others/service industry	-.398(*)	.094	.000	-.58	-.21
		manufacturing industry	.051	.078	.514	-.10	.20
		building industry	.115	.085	.178	-.05	.28
		transportation industry	.429(*)	.115	.000	.20	.65
	others/service industry	others/service industry	.031	.077	.691	-.12	.18
		manufacturing industry	.020	.043	.638	-.06	.10
		building industry	.085	.055	.126	-.02	.19
		transportation industry	.398(*)	.094	.000	.21	.58
		IT industry	-.031	.077	.691	-.18	.12

\* The mean difference is significant at the .05 level.



## Annex 7 Dendrogram using Ward Method State

\*\*\*\*\*HIERARCHICAL CLUSTER ANALYSIS\*\*\*\*\*

Rescaled Distance Cluster Combine

CASE	0	5	10	15	20	25
Label	Num	+-----+	+-----+	+-----+	+-----+	
136	↓ <sub>Σ</sub>					
165	↓ <sub>α</sub>					
119	↓ <sub>α</sub>					
128	↓ <sub>α</sub>					
132	↓ <sub>α</sub>					
145	↓ <sub>α</sub>					
115	↓ <sub>α</sub>					
131	↓ <sub>α</sub>					
144	↓ <sub>α</sub>					
118	↓ <sub>α</sub>					
127	↓ <sub>α</sub>					
133	↓ <sub>α</sub>					
160	↓↑↓↓↓ <sub>Σ</sub>					
117	↓ <sub>α</sub>	⇔				
126	↓ <sub>α</sub>	⇔				
153	↓ <sub>α</sub>	⇔				
161	↓ <sub>α</sub>	⇔↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓ <sub>Σ</sub>				
147	↓ <sub>Σ</sub>	⇔		⇔		
159	↓ <sub>Σ</sub>	⇔		⇔		
170	↓↑↓ <sub>Σ</sub>	⇔		⇔		
142	↓ <sub>α</sub>	⇔⇔		⇔		
143	↓ <sub>α</sub>	⇔↓ <sub>Σ</sub>		⇔		
151	↓ <sub>Σ</sub>	⇔		⇔		
130	↓ <sub>Σ</sub>	⇔		⇔		
156	↓↑↓ <sub>Σ</sub>			⇔		
116	↓ <sub>α</sub>			⇔		
125	↓ <sub>α</sub>			⇔↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓ <sub>Σ</sub>		
154	↓ <sub>α</sub>			⇔		⇔
168	↓ <sub>Σ</sub>			⇔		⇔
72	↓ <sub>Σ</sub>			⇔		⇔
106	↓ <sub>α</sub>			⇔		⇔
33	↓ <sub>α</sub>			⇔		⇔
76	↓↑↓↓↓↓ <sub>Σ</sub>			⇔		⇔
77	↓ <sub>α</sub>	⇔		⇔		⇔
98	↓ <sub>α</sub>	⇔		⇔		⇔
70	↓ <sub>α</sub>	⇔		⇔		⇔
90	↓ <sub>α</sub>	⇔↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓ <sub>Σ</sub>				⇔
74	↓ <sub>Σ</sub>	⇔				⇔

[illegible]

6

112	$\downarrow_a \Leftrightarrow$		$\Leftrightarrow$
121	$\downarrow_a \Leftrightarrow$		$\Leftrightarrow$
148	$\downarrow_a \Leftrightarrow$		$\Leftrightarrow$
167	$\downarrow_a \Leftrightarrow$		$\Leftrightarrow$
140	$\downarrow_a \sqcap \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$		$\Leftrightarrow$
146	$\downarrow_a \Leftrightarrow$	$\Leftrightarrow$	$\Leftrightarrow$
158	$\downarrow_{\downarrow} \Leftrightarrow$	$\Leftrightarrow$	$\Leftrightarrow$
134	$\downarrow_{\downarrow} \Leftrightarrow$	$\Leftrightarrow$	$\Leftrightarrow$
138	$\downarrow_a \Leftrightarrow$	$\Leftrightarrow$	$\Leftrightarrow$
152	$\downarrow_a \Leftrightarrow$	$\Leftrightarrow$	$\Leftrightarrow$
113	$\downarrow \uparrow \downarrow_{\downarrow}$	$\Leftrightarrow$	$\Leftrightarrow$
122	$\downarrow_a$	$\Leftrightarrow$	$\Leftrightarrow$
114	$\downarrow_a$	$\Leftrightarrow$	$\Leftrightarrow$
123	$\downarrow_a$	$\Leftrightarrow$	$\Leftrightarrow$
150	$\downarrow_a$	$\sqcap \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$	
141	$\downarrow_a$	$\Leftrightarrow$	
164	$\downarrow_{\downarrow}$	$\Leftrightarrow$	
97	$\downarrow * \downarrow_{\downarrow}$	$\Leftrightarrow$	
99	$\downarrow_{\downarrow} \Leftrightarrow$	$\Leftrightarrow$	
67	$\downarrow_{\downarrow} \sqcap \downarrow_{\downarrow}$	$\Leftrightarrow$	
109	$\downarrow_a \Leftrightarrow \Leftrightarrow$	$\Leftrightarrow$	
69	$\downarrow_a \Leftrightarrow \Leftrightarrow$	$\Leftrightarrow$	
95	$\downarrow \uparrow \downarrow_{\downarrow} \Leftrightarrow$	$\Leftrightarrow$	
91	$\downarrow_a \Leftrightarrow$	$\Leftrightarrow$	
107	$\downarrow_a \Leftrightarrow$	$\Leftrightarrow$	
55	$\downarrow_{\downarrow} \sqcap \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$		
41	$\downarrow_{\downarrow} \Leftrightarrow$		
71	$\downarrow_a \Leftrightarrow$		
29	$\downarrow_a \Leftrightarrow$		
65	$\downarrow \uparrow \downarrow_{\downarrow} \Leftrightarrow$		
23	$\downarrow_a \Leftrightarrow \Leftrightarrow$		
40	$\downarrow_a \Leftrightarrow \Leftrightarrow$		
20	$\downarrow_{\downarrow} \sqcap \downarrow_{\downarrow}$		
11	$\downarrow * \downarrow_a$		
84	$\downarrow_{\downarrow} \Leftrightarrow$		
18	$\downarrow_{\downarrow} \Leftrightarrow$		
30	$\downarrow_a \Leftrightarrow$		
3	$\downarrow_a \Leftrightarrow$		
100	$\downarrow \uparrow \downarrow_{\downarrow}$		
32	$\downarrow_{\downarrow}$		

## Cluster 2State

### Case Processing Summary(a,b)

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
123	72.4	47	27.6	170	100.0

a Squared Euclidean Distance used

b Ward Linkage

## Ward Linkage

### Agglomeration Schedule

## Annex 8 Dendrogram using Ward Method on industry

\*\*\*\*\*HIERARCHICAL CLUSTER ANALYSIS\*\*\*\*\*

Rescaled Distance Cluster Combine

CASE	0	5	10	15	20	25
Label	Num	+-----+-----+-----+-----+-----+				
119	↓					
128	↓					
47	↓					
79	↓	↓				
88	↓	↔				
81	↓	↔				
82	↓	↓	↓	↓	↓	↓
24	↓	↔		↔		
74	↓	↔		↔		
142	↓	↔		↔		
145	↓	↓		↔		
144	↓	↔		↔		
163	↓			↔		
168	↓	↓		↔		
130	↓	↔		↔		
154	↓	↔		↓	↓	↓
132	↓	↔		↔		↔
156	↓	↓	↓	↓	↔	↔
116	↓	↔		↔		↔
125	↓	↔		↔		↔
165	↓	↔		↔		↔
131	↓	↓		↔		↔
150	↓			↔		↔
72	↓			↔		↔
161	↓			↔		↔
170	↓		↓			↔
73	↓		↔			↔
139	↓	↓	↓	↓	↔	↔
143	↓		↔			↔
16	↓		↔			↔
159	↓		↔			↔
160	↓		↔			↔
115	↓		↔			↔
136	↓		↔			↔
147	↓		↓			↔
105	↓		↔			↔
52	↓		↔			↔
153	↓		↔			↔

[illegible]

89	↕↗	↔		↔
28	↕↘	↔	↔↔↔↔↔↔↔↔↔↔	↔
134	↕↖	↔	↔	↔
17	↕↖	↔	↔	↔
80	↕↗↕↘	↔	↔	↔
22	↕↖	↔	↔	↔
61	↕↖	↔	↔	↔
55	↕↗	↔	↔	↔
114	↕↘	↔	↔	↔
123	↕↗↕↘		↔	↔
26	↕↖		↔	↔
39	↕↖		↔	↔
20	↕↗		↔↔↔↔↔↔↔↔↔↔↔↔↔↔↔↔	
23	↕↘		↔	
51	↕↖		↔	
31	↕↖		↔	
40	↕↖		↔	
46	↕↖		↔	
11	↕↗↕↘↕↖		↔	
2	↕↖	↔	↔	
8	↕↖	↔	↔	
1	↕↖	↔	↔	
94	↕↖	↔	↔	
59	↕↖	↔	↔	
109	↕↖	↔	↔↔↔↔↔↔↔↔↔↔	
14	↕↗	↔		
7	↕↘	↔		
75	↕↖	↔		
103	↕↖	↔		
4	↕↖	↔		
58	↕↗↕↘↕↖			
63	↕↖			
67	↕↖			
68	↕↖			
21	↕↖			
50	↕↖			
6	↕↗			

Case Processing Summary(a,b)

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
121	71.2	49	28.8	170	100.0

a Squared Euclidean Distance used

b Ward Linkage

\*\*\*HIERARCHICAL CLUSTER ANALYSIS\*\*\*\*\*

C A S E		Rescaled Distance Cluster Combine					
		0	5	10	15	20	25
Label	Num	+-----+	+-----+	+-----+	+-----+	+-----+	
	162	↓ <sub>a</sub>					
	111	↓ <sub>a</sub>					
	120	↓ <sub>a</sub>					
	71	↓ <sub>a</sub>					
	154	↓↑↓ <sub>a</sub> ↘					
	141	↓ <sub>a</sub> ⇔					
	65	↓ <sub>a</sub> ⇔					
	106	↓ <sub>c</sub> ⇔					
	117	↓ <sub>b</sub> ⇔					
	126	↓ <sub>a</sub> ⇔					
	91	↓↑↓ <sub>a</sub>					
	153	↓ <sub>a</sub> ⇔ ↓↓ <sub>b</sub> ↘					
	158	↓ <sub>a</sub> ⇔	⇔				
	140	↓ <sub>c</sub> ⇔	⇔				
	109	↓ <sub>b</sub> ⇔	⇔				
	163	↓ <sub>a</sub> ⇔	⇔				
	151	↓↑↓ <sub>c</sub>	⇔ ↓↓ <sub>a</sub> ↓↓ <sub>b</sub> ↓↓ <sub>c</sub> ↓↓ <sub>d</sub> ↓↓ <sub>e</sub> ↓↓ <sub>f</sub> ↓↓ <sub>g</sub> ↓↓ <sub>h</sub> ↓↓ <sub>i</sub> ↓↓ <sub>j</sub> ↓↓ <sub>k</sub> ↓↓ <sub>l</sub> ↓↓ <sub>m</sub> ↓↓ <sub>n</sub> ↓↓ <sub>o</sub> ↓↓ <sub>p</sub> ↓↓ <sub>q</sub> ↓↓ <sub>r</sub> ↓↓ <sub>s</sub> ↓↓ <sub>t</sub> ↓↓ <sub>u</sub> ↓↓ <sub>v</sub> ↓↓ <sub>w</sub> ↓↓ <sub>x</sub> ↓↓ <sub>y</sub> ↓↓ <sub>z</sub>				
	107	↓ <sub>c</sub>	⇔		⇔		
	18	↓ <sub>b</sub>	⇔		⇔		
	30	↓ <sub>a</sub>	⇔		⇔		
	3	↓ <sub>a</sub>	⇔		⇔		
	63	↓↑↓ <sub>a</sub> ↓↓ <sub>b</sub> ↓↓ <sub>c</sub> ↓↓ <sub>d</sub> ↓↓ <sub>e</sub> ↓↓ <sub>f</sub>			⇔		
	11	↓ <sub>c</sub>			⇔		
	115	↓ <sub>b</sub>			⇔		
	124	↓ <sub>a</sub>			⇔		
	74	↓ <sub>a</sub>			⇔		
	150	↓ <sub>a</sub>			⇔		
	114	↓ <sub>a</sub>			⇔		
	123	↓↑↓ <sub>b</sub>			⇔ ↓↓ <sub>a</sub> ↓↓ <sub>b</sub> ↓↓ <sub>c</sub> ↓↓ <sub>d</sub> ↓↓ <sub>e</sub> ↓↓ <sub>f</sub> ↓↓ <sub>g</sub> ↓↓ <sub>h</sub> ↓↓ <sub>i</sub> ↓↓ <sub>j</sub> ↓↓ <sub>k</sub> ↓↓ <sub>l</sub> ↓↓ <sub>m</sub> ↓↓ <sub>n</sub> ↓↓ <sub>o</sub> ↓↓ <sub>p</sub> ↓↓ <sub>q</sub> ↓↓ <sub>r</sub> ↓↓ <sub>s</sub> ↓↓ <sub>t</sub> ↓↓ <sub>u</sub> ↓↓ <sub>v</sub> ↓↓ <sub>w</sub> ↓↓ <sub>x</sub> ↓↓ <sub>y</sub> ↓↓ <sub>z</sub>		
	133	↓ <sub>a</sub> ⇔			⇔		⇔
	113	↓ <sub>a</sub> ⇔			⇔		⇔
	122	↓ <sub>a</sub> ⇔			⇔		⇔
	55	↓ <sub>a</sub> ⇔			⇔		⇔
	160	↓ <sub>a</sub> ⇔ ↓↓ <sub>b</sub> ↘			⇔		⇔
	142	↓ <sub>c</sub> ⇔	⇔		⇔		⇔
	119	↓ <sub>b</sub> ⇔	⇔		⇔		⇔
	128	↓ <sub>a</sub> ⇔	⇔		⇔		⇔
	156	↓↑↓ <sub>a</sub>	⇔		⇔		⇔



[illegible]



[illegible]

[illegible]

122    ⚙️ ⇄ ⇄  
69    ⚙️ ⇄ ⇄ ⇄  
2    ⚙️ ⇄ ⇄ ⇄  
58    ⚙️ ⇄

Cluster X9

Case Processing Summary(a,b)

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
166	97.6	4	2.4	170	100.0

- a    Squared Euclidean Distance used
- b    Ward Linkage

# Annex 11 Dendrogram of China small clusters

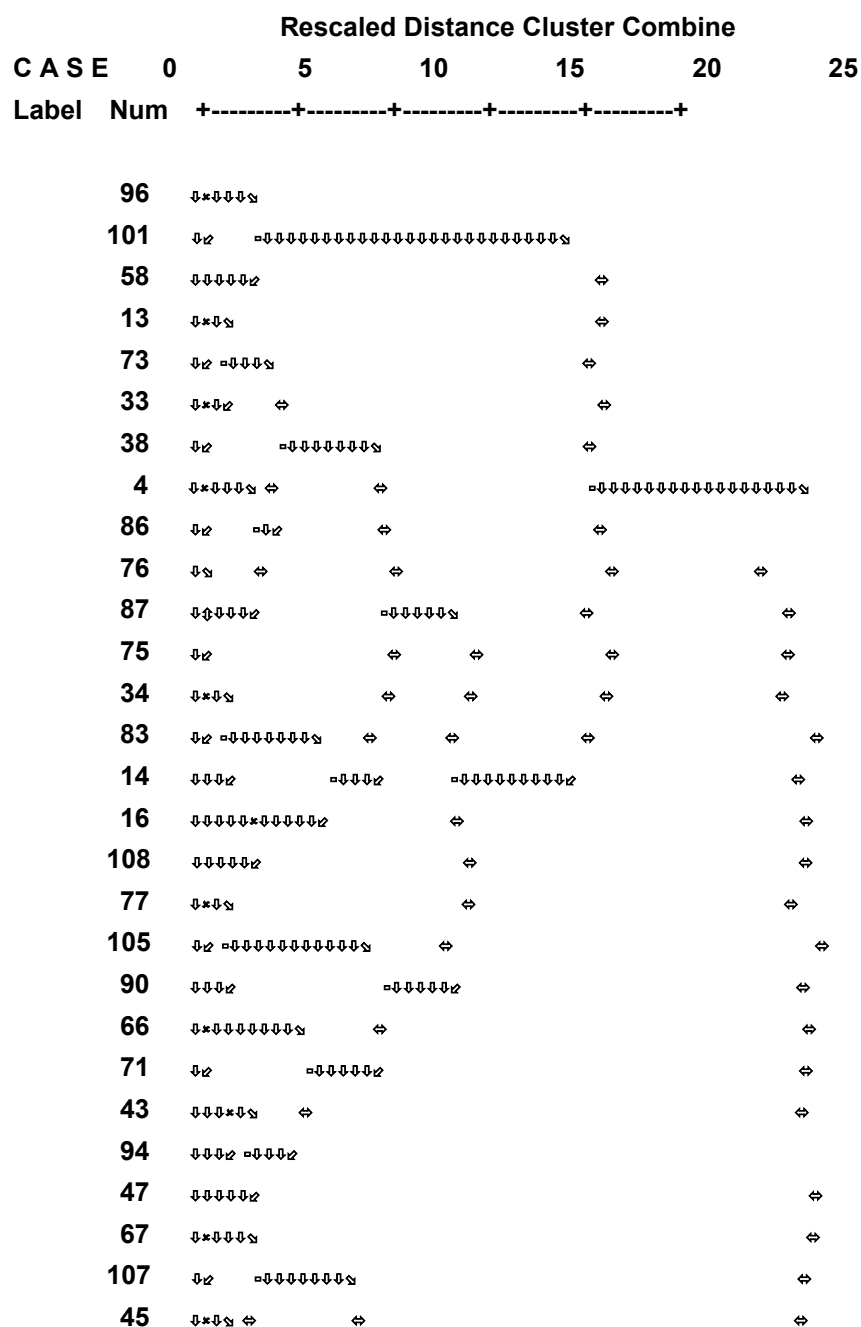
## Cluster Analysis

### Case Processing Summary(a,b)

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
37	88.1	5	11.9	42	100.0

a Squared Euclidean Distance used

b Ward Linkage



[illegible]

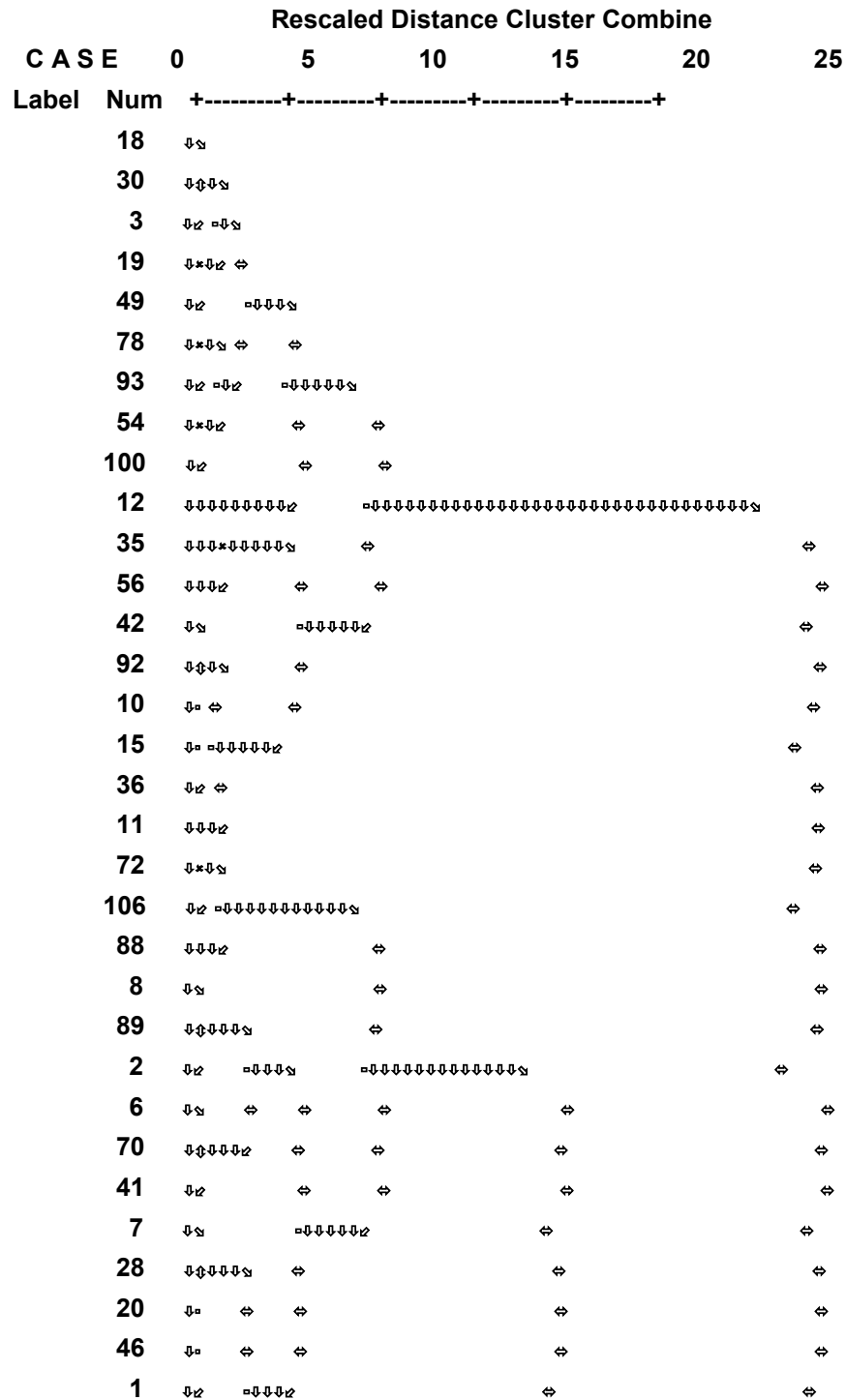
## Annex 12 Dendrogram of China large clusters

### Case Processing Summary(a,b)

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
57	86.4	9	13.6	66	100.0

a Squared Euclidean Distance used

b Ward Linkage





[illegible]

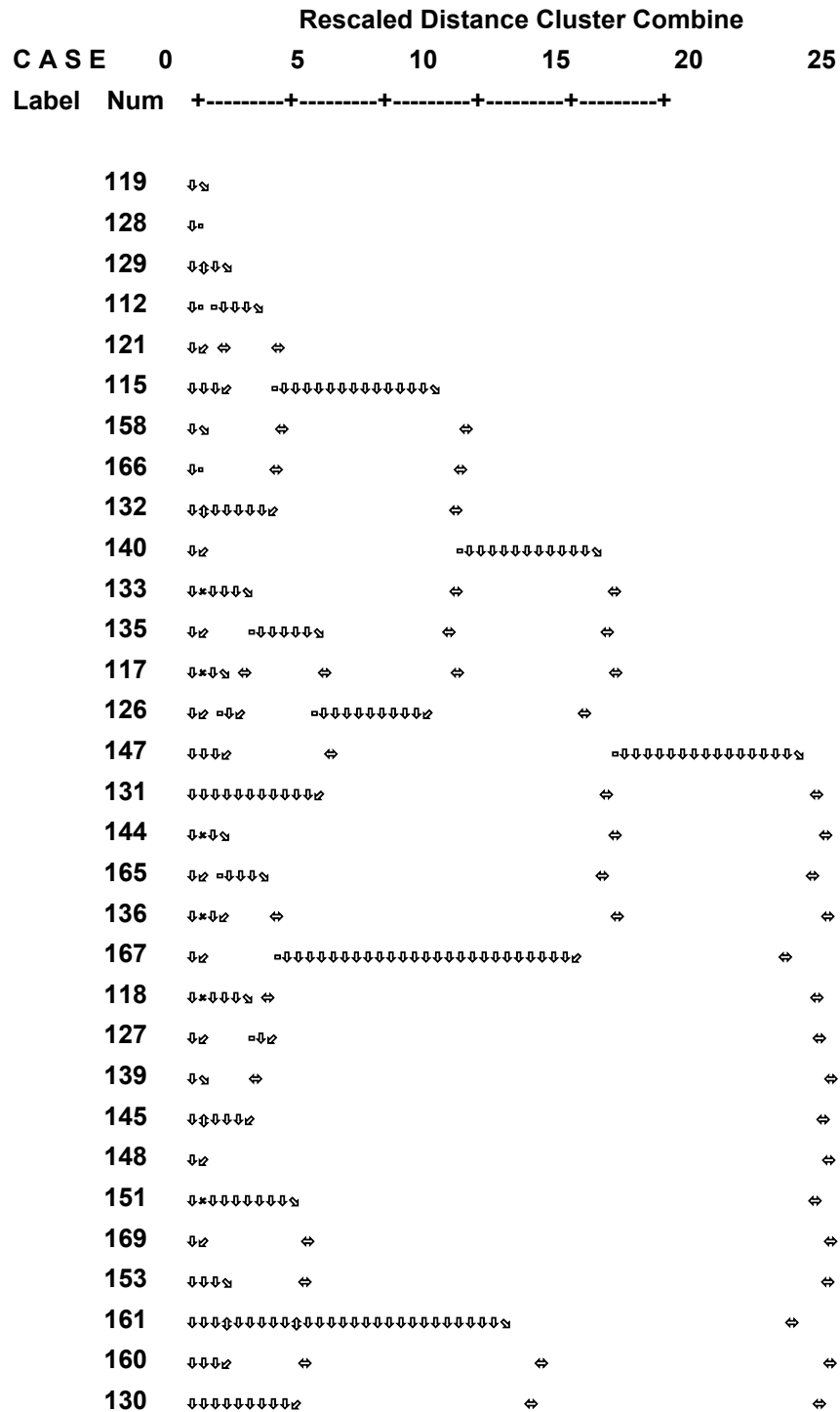
## Annex 13 Dendrogram of Czech small clusters

### Case Processing Summary(a,b)

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
37	92.5	3	7.5	40	100.0

a Squared Euclidean Distance used

b Ward Linkage



[illegible]



Annex 15 Data for Cluster analysis

	STATE	X011	X012	X013	X014	X015	X016	X2	X3	X4	X5	X61	X62	X63	X64	X65	X66	X7	X8	X91	X92	X93	X101	X102	X103	X104	X11	X12	X131	X132	X133	X134	X135	X14	X151	X152	X153	X16	X171	X172	X173	X174	X175	X18	X19	Y1	Y2	Y3
1	-1	0,67	.	1,00	-0,33	.	0,33	-0,50	1,00	-0,50	1,00	1,00	-0,33	-1,00	0,33	0,67	-0,67	1,00	0,00	-1	-1	1	1	1	1	1	-0,50	1	0,50	1,00	-0,50	0,00	-1,00	0	-1	-1	1	0,00	0,50	1,00	0,50	0,00	1,00	0,10	-0,50	1	1	-1,00
2	-1	-0,33	.	1,00	0,67	0,33	-0,67	-1,00	0,50	-1,00	0,50	1,00	0,67	-0,33	-1,00	-0,67	0,33	-0,50	-0,50	-1	-1	1	1	1	1	1	-1,00	-1	-0,50	1,00	-1,00	0,00	0,50	0	-1	-1	1	0,050	1,00	0,50	-0,50	0,00	0,50	0,03	-0,50	1	1	-1,00
3	-1	0,33	.	1,00	0,67	.	-0,33	-0,50	1,00	-0,50	1,00	1,00	-0,33	-0,67	0,67	0,33	-1,00	1,00	1,00	1	-1	1	1	1	-1	-1	-1,00	0	0,50	1,00	0,00	-1,00	-0,50	-1	-1	-1	1	0,000	1,00	0,50	0,00	-0,50	0,50	0,1	0,00	1	-1	-0,50
4	-1	.	.	0,67	.	1,00	0,33	0,50	1,00	-0,50	1,00	1,00	-0,67	.	-0,33	0,67	0,33	-1,00	-1,00	-1	-1	1	1	1	1	1	-0,50	0	1,00	0,50	.	.	.	0	-1	-1	1	0,000	1,00	0,50	0,00	-1,00	-0,50	0	-1,00	-0,33	1	-0,50
5	-1	-0,67	0,33	1,00	-1,00	-0,33	0,67	-0,50	0,00	-0,50	1,00	1,00	0,33	-1,00	0,67	-0,33	-0,67	-1,00	-1,00	1	-1	1	1	1			-1,00	0	-1,00	1,00	-0,50	0,00	0,50	0	1	1	1	0,000	1,00	1,00	-1,00	1,00	0,00	0,5	1,00	1	1	-1,00
6	-1	0,67	.	1,00	.	.	0,33	0,00	1,00	-0,50	1,00	1,00	0,67	0,33	-0,33	-1,00	-0,67	-1,00	-1,00	-1	-1	1	1	1	1	-1	-0,50	1	-1,00	0,00	0,50	-0,50	1,00	0	-1	-1	1	0,000	1,00	1,00	-0,50	0,00	0,50	0,3	0,00	1	-1	1,00
7	-1	0,67	0,33	1,00	-0,33	.	.	0,00	1,00	-0,50	1,00	1,00	0,67	-0,33	0,33	.	.	0,00	-0,50	-1	-1	1	1	1	1	-1	-1,00	0	1,00	0,50	.	.	.	1	-1	-1	1	0,000	0,50	1,00	0,00	0,50	0,00	0,1	0,00	1	-1	1,00
8	-1	1,00	-0,33	0,67	-0,67	0,33	-1,00	-1,00	1,00	0,00	1,00	1,00	0,33	-0,33	0,67	-0,67	-1,00	-1,00	-1,00	-1	-1	1	1	1	1	1	-0,50	1	-1,00	1,00	0,50	0,00	-0,50	-1	-1	1	-1	0,000	1,00	1,00	-1,00	1,00	0,00	0	-1,00	1	0	-1,00
9	-1	1,00	.	0,67	.	0,33	1,00	0,50	-0,50	-0,50	0,50	1,00	0,33	0,67	-0,33	.	.	0,50	-0,50	1	-1	-1	1	1	1	1	-0,50	1	1,00	-0,50	-1,00	0,50	0,00	0	-1	-1	1	0,000	0,00	-1,00	1,00	0,00	-0,50	0	-1,00	-1	1	1,00
10	-1	-0,67	0,33	0,67	.	1,00	-0,33	0,00	1,00	-0,50	0,50	0,67	0,33	1,00	-0,33	-1,00	-0,67	0,00	0,50	1	-1	1	1	1	1	1	-0,50	0	-0,50	1,00	-1,00	0,00	0,50	-1	-1	-1	1	0,130	1,00	1,00	0,00	-0,50	0,50	1	0,50	1	-1	-0,50
11	-1	-1,00	-0,33	-0,67	0,33	1,00	0,67	0,50	0,00	-0,50	1,00	1,00	0,67	-1,00	-0,67	-0,33	0,33	0,00	1,00	-1	-1	1	1	1	-1	-1	-0,50	0	-1,00	1,00	0,00	-0,50	0,50	-1	1	-1	1	0,000	1,00	0,50	1,00	0,50	0,00	1	1,00	0,33	-1	-1,00
12	-1	1,00	.	0,67	.	.	0,33	-1,00	1,00	-0,50	1,00	-0,33	-0,67	.	0,33	1,00	0,67	0,00	0,00	-1	-1	1	1	1	1	1	-0,50	0	.	1,00	0,50	0,00	.	-1	1	-1	-1	0,000	-1,00	0,00	1,00	0,50	-0,50	0,02	-0,50	0,33	-1	-1,00
13	-1	0,67	.	1,00	.	.	0,33	0,00	1,00	-1,00	1,00		.	.	.	0,67	-1,00	-0,50	1	-1	-1	1	1	1	1	-1	-1,00	1	.	.	.	.	1,00	-1	1	-1	1	0,100	0,50	0,00	-0,50	0,50	0,50	0	-1,00	-0,33	-1	1,00
14	-1	-0,33	-0,67	1,00	.	0,67	0,33	0,00	0,00	-0,50	1,00	1,00	-1,00	0,33	0,67	-0,33	-0,67	0,00	0,00	-1	-1	1	1	1	1	1	-1,00	0	0,00	1,00	-0,50	-1,00	0,50	0	1	-1	1	0,050	1,00	1,00	-0,50	0,00	0,00	0,85	0,00	-0,33	-1	-1,00
15	-1	1,00	.	0,67	.	.		-0,50	1,00	-1,00	1,00	1,00	0,67	0,33	.	.	.	0,00	0,50	-1	-1	1	1	1	-1	-1	-0,50	0	.	1,00	.	.	.	.	1	-1	-1	0,000	0,50	0,00	0,00	-0,50	0,00	0,8	0,50	0,33	-1	-0,50
16	-1	1,00	-0,33	0,33	.	0,67	-0,67	0,50	1,00	-0,50	1,00	1,00	-0,67	.	-0,33	0,67	0,33	1,00	1,00	1	-1	-1	1	-1	-1	-1	-0,50	0	0,00	1,00	.	.	0,50	1	-1	-1	1	.	-0,50	0,50	-0,50	1,00	1,00	0,05	-0,50	-0,33	-1	1,00
17	-1	0,67	.	1,00	.	.		-0,50	0,00	0,00	1,00	1,00	0,67	0,33	.	.	-0,33	-0,50	0,00	-1	-1	1	1	-1	-1	-1	-0,50	0	-0,50	0,00	-1,00	0,50	1,00	-1	-1	-1	1	0,020	0,50	0,00	0,50	0,50	0,00	0,8	0,50	0,33	-1	-1,00
18	-1	0,33	.	1,00	0,67	.	-0,33	-0,50	1,00	-0,50	1,00	1,00	-0,33	-0,67	0,67	0,33	-1,00	1,00	1,00	1	-1	1	1	1	-1	-1	-1,00	0	0,50	1,00	0,00	-1,00	-0,50	-1	-1	-1	1	0,000	0,50	0,00	0,50	0,00	1,00	0,1	0,00	1	-1	-0,50
19	-1	.	0,67	1,00	.	.		-1,00	0,00	-0,50	1,00	1,00	-0,67	-1,00	0,67	-1,00	-0,33	1,00	1,00	1	-1	1	1	1	-1	-1	-1,00	0	0,50	0,00	-1,00	1,00	-0,50	0	1	-1	1	0,150	1,00	1,00	0,00	0,50	0,50	0,2	0,00	1	0	-1,00
20	-1	-0,67	-0,33	1,00	.	0,33	0,67	0,00	1,00	-0,50	0,50	0,33	0,67	1,00	.	.	.	0,00	-0,50	-1	-1	1	1	-1	-1	-1	0,00	0	-1,00	0,00	1,00	-0,50	0,50	1	-1	-1	1	0,150	0,50	0,50	0,50	0,50	0,50	0,3	0,00	0,33	0	0,50
21	-1	1,00	-0,67	0,33	0,67	-0,33	-1,00	-0,50	0,00	-0,50	1,00	1,00	-0,33	-1,00	0,67	0,33	-0,67	0,00	0,00	-1	-1	1	1	1	1	-1	0,00	-1	0,00	1,00	0,50	-1,00	-0,50	-1	-1	-1	1	.	1,00	1,00	0,00	0,50	0,00	0,8	0,50	0,33	1	1,00
22	-1	1,00	.	0,67	.	.	0,33	0,00	0,00	0,50	0,50	1,00	0,67	.	.	.	.	0,50	0,00	-1	-1	1	1	-1	1	1	0,00	1	0,50	0,00	1,00	-0,50	-1,00	-1	-1	-1	1	0,050	1,00	1,00	0,00	0,00	0,00	0,9	0,50	1	-1	-1,00
23	-1	.	.	1,00	0,33	0,67	-0,33	0,00	1,00	0,00	1,00	1,00	0,67	0,33	-1,00	-0,33	-0,67	-0,50	-1,00	-1	-1	1	1	1	-1	-1	0,00	1	-0,50	1,00	-1,00	0,00	0,50	0	-1	-1	1	0,010	1,00	0,50	0,50	0,00	0,00	0,9	-0,50	1	-1	-1,00
24	-1	1,00	0,67	0,33	.	.	.	0,00	0,50	0,00	-0,50	1,00	0,67	0,33	.	.	.	0,00	0,00	-1	1	-1	-1	-1	1	-1	0,00	0	1,00	0,50	0,00	.	.	-1	-1	-1	1	0,040	1,00	0,50	0,00	0,50	0,00	0,1	0,00	1	-1	0,00
25	-1	-0,33	.	0,33	.	1,00	0,67	0,00	-0,50	-0,50	1,00	1,00	0,67	.	.	0,33	.	0,00	-0,50	1	1	1	-1	1	1	1	0,50	1	0,50	.	1,00	0,50	-0,50	1	-1	1	1	0,000	0,50	1,00	-0,50	0,50	0,50	0,8	0,00	1	-1	-1,00
26	-1	-1,00	-0,67	0,67	-0,33	0,33	1,00	0,00	0,00	-0,50	0,50	1,00	0,33	-0,33	0,67	-0,67	-1,00	0,00	-0,50	-1	-1	1	-1	-1	1	-1	0,00	-1	-1,00	1,00	0,00	-0,50	0,50	-1	1	-1	1	0,100	0,50	0,50	0,50	0,50	0,00	0,2	0,00	-0,33	-1	-0,50
27	-1	1,00	.	0,67	0,33	-0,33	.	-1,00	0,00	-0,50	1,00	1,00	-0,67	-1,00	0,67	0,33	-0,33	0,00	-0,50	1	1	1	1	1	1	-1	0,00	0	-1,00	1,00	0,50	0,00	-0,50	1	1	-1	1	0,000	1,00	1,00	0,00	0,50	0,00	0,02	0,00	1	1	-1,00
28	-1	0,33	.	1,00	.	0,67	.	0,00	1,00	0,00	0,50	1,00	-0,67	-1,00	-0,33	0,67	0,33	-1,00	-0,50	-1	-1	1	1	-1	-1	-1	-1,00	0	-0,50	1,00	-1,00	0,00	0,50	-1	1	-1	-1	.	1,00	0,50	0,50	0,50	0,00	0,01	0,00	1	1	-1,00
29	-1	0,67	-1,00	1,00	-0,67	0,33	-0,33	0,50	1,00	-0,50	1,00	1,00	.	.	.	0,33	0,67	0,50	-0,50	-1	-1	1	1	-1	-1	-1	0,00	1	0,50	1,00	.	0,00	.	-1	-1	-1	1	0,000	0,50	0,50	0,00	0,50	0,00	.	-1,00	0,33	-1	-1,00
30	-1	0,33	.	1,00	0,67	.	-0,33	-0,50	1,00	-0,50	1,00	1,00	-0,33	-0,67	0,67	0,33	-1,00	1,00	1,00	1	-1	1	1	1	-1	-1	-1,00	0	0,50	1,00	0,00	-1,00	-0,50	-1	-1	-1	1	0,000	0,50	0,00	0,00	0,50	0,00	0,1	0,00	1	-1	-0,50
31	-1	1,00	.	0,67	-0,67	-0,33	0,33	-0,50	0,00	-0,50	0,50	1,00	0,33	0,67	-0,33	-0,67	-1,00	-0,50	0,00	-1	-1	1	1	1	1	1	0,00	0	-0,50	1,00	.	0,50	0,00	0	1	-1	1	8,000	0,50	0,50	0,50	0,00	0,50	1	0,00	1	-1	-0,50
32	-1	.	0,67	1,00	0,33	-0,33	-0,67	0,00	0,00	-0,50	-0,50	1,00	0,33	-0,33	-0,67	0,67	.	0,50	0,50	-1	-1	1	1	1																								

64	-1	0,67	.	1,00	.	0,33	-0,33	0,00	1,00	-0,50	1,00	1,00	-0,33	-0,67	0,67	0,33	-1,00	-1,00	-0,50	-1	-1	1	1	1	1	1	0,50	0	-1,00	1,00	0,50	-0,50	0,00	1	1	-1	-1	0,020	1,00	1,00	-0,50	0,50	-0,50	.	0,00	1	-1	1,00
65	-1	0,67	0,33	1,00	.	.	-0,33	0,00	1,00	-0,50	1,00	.	0,67	-0,33	1,00	0,33	-0,67	-1,00	-0,50	-1	-1	1	1	1	-1	-1	-0,50	1	1,00	.	0,00	-0,50	0,50	0	-1	-1	1	.	0,50	0,00	0,50	0,00	0,50	.	-1,00	0,33	-1	-0,50
66	-1	1,00	0,33	0,67	.	.	.	-1,00	1,00	-0,50	0,50	1,00	.	0,67	.	.	.	-1,00	-1,00	-1	-1	1	1	-1	1	1	1,00	0	1,00	0,50	.	.	.	0	-1	-1	1	0,000	1,00	1,00	0,00	-0,50	-0,50	0,2	-1,00	-0,33	-1	0,00
67	-1	0,67	.	.	.	.	1,00	0,00	-1,00	-0,50	0,00	.	1,00	.	.	.	0,67	-1,00	-1,00	-1	-1	1	1	1	-1	-1	-0,50	0	1,00	.	.	.	.	0	-1	-1	1	0,100	0,50	0,00	-0,50	-1,00	0,50	0,9	0,00	-0,33	-1	1,00
68	-1	.	1,00	0,67	0,33	.	-0,33	0,00	-0,50	-0,50	0,50	0,67	1,00	-0,33	0,33	-0,67	-1,00	-1,00	-1,00	-1	-1	1	1	1	1	1	-0,50	0	0,50	1,00	-1,00	0,00	-0,50	0	-1	-1	1	0,050	0,50	1,00	-0,50	-1,00	0,00	1	0,50	1	-1	0,00
69	-1	1,00	.	0,67	-0,67	-0,33	0,33	0,00	-0,50	0,00	-0,50	1,00	.	0,33	0,67	.	.	-1,00	-1,00	-1	-1	1	1	-1	-1	-1	-0,50	-1	.	1,00	0,50	.	.	-1	-1	-1	1	0,000	1,00	0,00	0,00	0,00	0,50	0	-1,00	-1	1	0,00
70	-1	.	.	1,00	.	.	0,67	0,00	1,00	-0,50	0,50	1,00	.	0,33	0,67	.	.	-1,00	-1,00	-1	-1	-1	1	1	-1	-1	-0,50	0	.	1,00	.	.	.	-1	1	-1	-1	0,000	0,50	0,50	-0,50	-0,50	0,00	1	0,00	1	0	-1,00
71	-1	1,00	-0,67	0,67	-1,00	0,33	-0,33	-0,50	0,50	0,50	1,00	1,00	0,33	0,67	.	.	.	-1,00	-1,00	1	1	1	1	1	-1	-1	0,50	0	.	.	.	.	.	0	-1	-1	1	0,000	0,50	0,50	0,00	0,00	0,50	0	-1,00	-0,33	-1	1,00
72	-1	0,67	.	0,33	.	.	1,00	1,00	1,00	0,50	-1,00	.	.	1,00	.	.	.	-1,00	-1,00	1	-1	-1	1	-1	-1	-1	0,50	1	1,00	0,50	.	.	.	0	-1	-1	1	0,050	0,50	0,50	1,00	-1,00	0,50	0,02	-1,00	0,33	-1	-1,00
73	-1	0,67	.	1,00	0,33	.	.	0,00	1,00	0,00	-0,50	1,00	0,67	.	.	.	.	-0,50	-0,50	1	-1	-1	1	-1	-1	-1	-1,00	1	0,50	1,00	.	.	.	0	-1	-1	1	0,010	0,50	0,50	0,00	0,00	0,50	0	-1,00	-1	-1	1,00
74	-1	0,67	.	.	0,33	.	1,00	0,50	-0,50	-0,50	-0,50	-0,67	0,67	-0,33	.	1,00	0,33	-1,00	-1,00	-1	1	-1	1	-1	-1	-1	0,00	-1	1,00	.	.	.	.	0	-1	-1	1	0,100	0,50	0,00	-0,50	-1,00	-0,50	0,6	0,00	-0,33	-1	1,00
75	-1	0,33	-1,00	0,67	-0,33	-0,67	1,00	0,50	1,00	-0,50	1,00	-0,67	-1,00	1,00	0,67	0,33	-0,33	0,00	-0,50	-1	-1	1	1	1	1	1	-1,00	0	1,00	0,50	-0,50	0,00	-1,00	1	1	-1	1	0,002	1,00	1,00	0,50	-0,50	0,50	0,2	-0,50	-0,33	-1	0,50
76	-1	0,67	.	1,00	-0,33	.	0,33	0,50	1,00	0,50	0,50	.	.	.	.	.	1,00	-0,50	-0,50	1	-1	-1	1	1	-1	-1	-0,50	-1	.	.	.	.	1,00	0	1	-1	-1	0,000	0,50	1,00	0,50	0,00	0,00	0,5	0,00	-0,33	-1	1,00
77	-1	0,67	.	0,33	.	.	1,00	-0,50	0,50	-0,50	-1,00	1,00	.	0,67	.	.	.	-1,00	-1,00	-1	1	-1	1	-1	-1	-1	-1,00	0	.	1,00	.	.	.	0	-1	-1	1	1,000	0,50	1,00	0,00	0,50	0,50	0	-1,00	-1	-1	1,00
78	-1	.	.	1,00	.	.	.	0,00	0,50	0,00	0,50	.	.	1,00	.	.	.	0,00	0,50	-1	-1	1	1	-1	1	1	-0,50	0	.	0,50	.	1,00	.	0	-1	-1	1	0,000	0,50	0,50	0,00	0,00	0,50	0,3	0,00	0,33	-1	0,50
79	-1	.	.	1,00	.	.	.	0,00	-0,50	-0,50	-0,50	.	.	1,00	.	.	.	-0,50	0,00	-1	1	-1	-1	-1	-1	1	0,00	0	1,00	.	.	.	.	0	1	-1	-1	0,100	0,50	0,00	0,00	0,50	0,00	0,9	-0,50	-0,33	-1	-1,00
80	-1	0,67	.	1,00	0,33	.	-0,33	-0,50	-0,50	-0,50	0,50	1,00	-0,33	-0,67	.	0,33	0,67	-0,50	0,00	-1	-1	1	1	-1	1	-1	0,00	0	-0,50	1,00	0,00	.	0,50	0	-1	-1	1	0,010	0,50	0,50	0,00	0,00	0,50	0,9	0,00	-0,33	-1	-0,50
81	-1	.	1,00	.	.	.	.	-1,00	-0,50	-0,50	-0,50	.	.	1,00	.	.	.	-1,00	-0,50	-1	1	-1	-1	-1	-1	1	0,00	1	1,00	.	.	.	.	0	1	-1	-1	0,100	0,50	0,00	0,50	0,00	0,50	0,9	-0,50	-0,33	0	0,00
82	-1	.	.	1,00	.	.	.	-0,50	0,50	1,00	-0,50	.	.	1,00	.	.	.	-1,00	-0,50	-1	1	-1	-1	-1	-1	1	0,00	0	1,00	.	.	.	.	0	1	-1	-1	0,100	0,50	0,00	0,50	0,00	0,50	0,9	0,00	1	0	0,00
83	-1	.	.	1,00	.	.	.	0,00	1,00	0,00	1,00	.	.	1,00	.	.	.	0,00	0,00	-1	-1	1	1	-1	-1	-1	-1,00	0	.	.	.	.	-1,00	1	-1	-1	1	0,050	1,00	1,00	0,00	0,00	0,00	0,95	0,00	-0,33	-1	-0,50
84	-1	.	.	.	.	.	1,00	1,00	-1,00	-0,50	0,50	.	.	1,00	.	.	.	0,50	0,50	-1	-1	1	1	-1	-1	-1	-0,50	1	.	1,00	.	.	.	0	-1	-1	1	0,100	0,50	0,00	0,50	0,00	0,50	0,9	-0,50	0,33	-1	-0,50
85	-1	.	.	.	.	.	.	1,00	0,00	1,00	1,00	1,00	.	.	0,67	0,33	.	-1,00	-1,00	-1	-1	1	1	-1	-1	1	1,00	1	0,50	1,00	.	.	.	0	-1	-1	1	0,000	1,00	1,00	-1,00	-1,00	-0,50	1	-1,00	1	-1	1,00
86	-1	0,67	.	0,33	.	.	1,00	0,50	1,00	-0,50	0,50	1,00	.	0,33	.	.	.	-1,00	-1,00	1	1	1	1	1	1	1	0,00	0	1,00	0,50	.	0,00	.	0	-1	-1	1	0,044	0,50	0,50	0,50	-0,50	0,50	0	-1,00	-1	-1	1,00
87	-1	0,33	.	1,00	.	-0,33	0,67	0,50	1,00	0,00	1,00	-0,67	-1,00	0,33	0,67	-0,33	1,00	-0,50	0,00	1	-1	1	1	-1	1	1	0,00	1	-1,00	1,00	0,00	-0,50	0,50	0	-1	-1	1	0,500	0,50	0,50	0,50	-0,50	0,00	0,2	-0,50	-1	1	0,50
88	-1	.	.	1,00	.	.	0,67	1,00	0,00	-0,50	-1,00	1,00	0,67	0,33	.	.	.	-1,00	-0,50	-1	1	-1	1	-1	1	-1	1,00	1	0,50	1,00	.	0,00	.	-1	-1	-1	1	0,400	0,00	-0,50	0,00	-0,50	0,50	0	-1,00	0,33	1	-1,00
89	-1	0,33	.	1,00	.	.	0,67	-0,50	1,00	0,00	0,50	0,33	-0,33	1,00	0,67	-0,67	-1,00	-0,50	-1,00	-1	-1	1	1	-1	1	1	-0,50	0	0,50	1,00	-1,00	-0,50	0,00	1	1	1	1	0,016	1,00	0,50	0,00	0,00	0,00	0,01	-1,00	0,33	-1	-0,50
90	-1	.	.	1,00	.	.	0,67	-1,00	0,00	-1,00	0,00	.	.	.	1,00	.	0,67	-1,00	-1,00	-1	1	-1	1	1	-1	-1	-0,50	1	1,00	0,50	.	0,00	.	1	1	-1	1	0,050	1,00	1,00	-1,00	-1,00	0,50	0	-1,00	-1	-1	1,00
91	-1	-0,67	0,33	0,67	-1,00	1,00	-0,33	0,50	0,00	0,00	1,00	1,00	0,67	0,33	.	.	.	0,00	-1,00	1	-1	1	1	1	-1	-1	0,00	1	0,50	1,00	-1,00	0,00	-0,50	0	-1	-1	1	.	1,00	0,50	-1,00	-1,00	-1,00	1	0,00	1	-1	1,00
92	-1	1,00	.	0,67	.	0,33	-0,33	0,00	0,50	-0,50	0,50	.	.	.	.	.	.	1,00	1,00	1	-1	1	1	1	1	1	-0,50	0	-0,50	1,00	-1,00	0,00	0,50	0	-1	1	1	0,000	1,00	1,00	0,00	0,00	0,50	1	0,00	1	-1	0,50
93	-1	1,00	-0,67	0,67	0,33	.	-0,33	0,00	1,00	0,00	0,50	1,00	0,33	-0,33	0,67	.	.	0,00	0,50	1	-1	-1	1	1	1	-1	0,00	0	0,50	1,00	-1,00	-0,50	0,00	-1	1	-1	-1	0,000	0,00	0,50	0,00	0,00	0,50	0,2	0,00	0,33	-1	1,00
94	-1	0,67	.	0,33	-0,67	-0,33	1,00	0,00	1,00	-0,50	1,00	1,00	-0,67	0,67	-1,00	0,33	-0,33	-0,50	-0,50	-1	-1	1	1	1	1	1	0,50	0	0,50	1,00	-1,00	-0,50	0,00	0	-1	-1	1	0,200	1,00	1,00	0,50	0,50	0,50	0,6	0,00	-1	-1	-0,50
95	-1	-0,67	-0,33	1,00	0,33	-1,00	0,67	0,50	0,00	-0,50	0,50	1,00	-0,33	.	.	0,33	0,67	-1,00	-0,50	-1	-1	1	1	-1	-1	-1	0,00	0	1,00	0,50	.	0,00	-0,50	0	-1	-1	1	0,600	1,00	0,50	0,00	-1,00	-0,50	0	-1,00	1	0	0,50
96	-1	0,67	-0,33	1,00	.	0,33	-0,67	-0,50	1,00	0,50	0,50	0,67	1,00	0,33	-0,67	.	-0,33	-1,00	-1,00	1	-1	-1	1	1	1	1	0,00	1	1,00	0,00	.	0,50	.	0	-1	-1	1	0,000	-1,00	-0,50	-0,50	0,00	0,00	1	-1,00	-0,33	-1	1,00
97	-1	0,67	-0,33	0,33	.	.	1,00	0,50	-1,00	-0,50	0,50	1,00	0,67	.	-0,33	0,33	.	-1,00	-0,50	1	-1	1	1	1	-1	1	0,00	1	-0,50	1,00	0,50	0,00	.	-1	1	1	1	0,000	0,00	1,00	0,00	-0,50	0,00	0,4	-0,50	0,33	-1	1,00
98	-1	1,00	.	0,67	-0,33	.	0,33	0,00	1,00	-0,50	0,50	0,33	1,00	0,67	.	.	-0,33	-0,5																														

130	1	.	.	1,00	.	.	0,67	0,00	0,00	-0,50	0,50	0,67	1,00	0,33	-0,33	.	.	-0,50	0,00	1	-1	-1	1	1	-1	-1	0,00	1	0,00	1,00	0,50	-1,00	-0,50	0	1	-1	1	0,100	1,00	1,00	-1,00	-0,50	0,00	0,45	0,50	-0,33	-1	-0,50
131	1	1,00	.	0,67	.	.	0,33	1,00	1,00	0,50	-0,50	.	0,67	.	1,00	.	.	-1,00	-1,00	1	-1	-1	1	-1	-1	1	1,00	1	0,50	1,00	.	.	.	0	-1	-1	1	0,000	-1,00	1,00	-1,00	-1,00	0,50	0	-1,00	-0,33	-1	-1,00
132	1	0,33	.	1,00	.	.	0,67	1,00	0,50	-0,50	1,00	0,33	0,67	1,00	-0,33	-0,67	.	-0,50	-0,50	1	-1	-1	1	-1	-1	-1	0,50	0	-0,50	0,50	0,00	-1,00	1,00	1	-1	-1	1	0,000	1,00	1,00	-1,00	0,50	0,50	0	-1,00	-1	1	-1,00
133	1	0,67	.	0,33	.	.	1,00	0,00	0,50	-0,50	0,50	0,33	1,00	0,67	.	.	.	0,00	0,00	1	-1	-1	1	-1	-1	-1	0,50	1	.	1,00	0,00	.	0,50	0	-1	-1	1	0,100	0,00	0,50	-1,00	-1,00	0,00	0	-1,00	-1	-1	-1,00
134	1	-0,33	-0,67	1,00	0,33	.	0,67	0,50	0,00	-0,50	0,50	0,33	0,67	1,00	.	.	.	-1,00	-1,00	-1	-1	1	-1	-1	-1	-1	0,00	0	0,00	1,00	-1,00	-0,50	0,50	0	-1	-1	1	0,000	0,50	0,00	0,50	-0,50	0,50	0,4	0,00	1	1	-1,00
135	1	.	.	1,00	0,67	.	0,33	0,00	0,50	0,00	0,50	.	1,00	.	.	.	.	-1,00	0,00	1	-1		1	-1	-1	-1	0,50	1	0,50	1,00	-0,50	0,00	-1,00	-1	-1	-1	1	0,050	0,50	1,00	-1,00	0,50	1,00	0	-1,00	-1	-1	-1,00
136	1	0,33	.	1,00	-0,33	.	0,67	0,50	0,50	0,50	0,50	0,33	0,67	-0,33	1,00	.	.	-1,00	-1,00	1	1	-1	1	-1	-1	-1	-0,50	-1	0,50	1,00	.	.	.	1	-1	-1	1	0,300	0,50	1,00	-0,50	-1,00	0,00	0	-1,00	-0,33	-1	1,00
137	1	0,67	.	1,00	.	.	0,33	0,00	0,50	-0,50	1,00	1,00	0,33	0,67	.	.	.	-1,00	.	1	-1	1	1	-1	1	-1	0,00	0	-0,50	1,00	0,50	.	0,00	-1	-1	-1	1	0,650	1,00	1,00	-1,00	0,00	0,00	0	-1,00	-1	-1	1,00
138	1	.	.	1,00	.	.	0,67	0,50	0,50	0,50	1,00	-1,00	0,67	1,00	-0,33	0,33	-0,67	-1,00	-1,00	1	-1	1	1	1	-1	-1	0,50	0	-1,00	1,00	0,50	-0,50	0,00	0	-1	-1	1	0,141	0,00	0,00	0,50	0,50	1,00	0,32	0,50	1	-1	-1,00
139	1	1,00	0,33	0,67	.	.	.	0,00	1,00	-1,00	1,00	.	1,00	.	.	0,67	.	-0,50	-0,50	1	-1	-1	1	-1	-1	-1	-0,50	0	0,00	0,50	1,00	.	.	0	-1	-1	1	0,050	-0,50	1,00	-0,50	-0,50	-0,50	0	-1,00	-1	-1	0,50
140	1	-0,33	0,33	1,00	.	.	0,67	1,00	0,00	-1,00	1,00	1,00	0,67	0,33	-0,33	-0,67	-1,00	-1,00	1	1	1	1	1	-1	-1	0,00	0	0,50	1,00	0,00	-1,00	-0,50	1	-1	-1	1	0,980	1,00	1,00	-0,50	0,50	0,50	0	-1,00	-1	-1	-0,50	
141	1	0,67	0,33	1,00	-1,00	-0,67	-0,33	0,50	-0,50	-0,50	0,50	1,00	0,33	0,67	-0,67	-0,33	-1,00	-1,00	-1,00	1	1	1	1	1	-1	-1	0,00	0	0,00	1,00	0,50	-0,50	-1,00	0	1	-1	1	0,050	1,00	1,00	-1,00	0,00	0,50	0,9	0,00	1	1	-1,00
142	1	0,33	.	1,00	.	.	0,67	1,00	-1,00	0,00	0,50	1,00	0,67	-0,33	.	.	0,33	-1,00	-0,50	-1	1	-1	1	-1	-1	-1	0,00	1	1,00	0,50	.	.	.	-1	-1	-1	1	0,000	1,00	1,00	-1,00	0,50	0,50	0	-1,00	-1	-1	1,00
143	1	.	.	1,00	.	.	0,67	1,00	-1,00	1,00	1,00	0,33	-0,33	1,00	-1,00	0,67	-0,67	-0,50	-0,50	1	-1	-1	1	-1	-1	-1	0,50	1	0,50	1,00	0,00	.	-0,50	1	-1	-1	1	0,000	0,00	1,00	-1,00	0,50	0,00	0	-1,00	-1	-1	0,50
144	1	0,67	0,33	1,00	.	.	-0,33	0,00	0,50	-0,50	1,00	1,00	0,67	0,33	-0,33	-0,67	-1,00	-1,00	-1,00	-1	1	-1	1	-1	-1	-1	0,00	0	0,00	0,50	1,00	-1,00	-0,50	1	1	-1	-1	0,050	0,00	1,00	-1,00	0,00	0,00	0	-1,00	-0,33	-1	1,00
145	1	0,33	.	1,00	.	.	0,67	0,50	0,50	-0,50	0,50	1,00	-0,33	0,33	.	0,67	.	-1,00	-0,50	-1	1	-1	1	-1	-1	-1	-0,50	0	1,00	0,50	0,00	-1,00	-0,50	1	-1	-1	1	0,000	-0,50	1,00	-0,50	0,50	0,50	0	-1,00	-1	-1	1,00
146	1	.	0,67	1,00	.	-0,33	0,33	0,00	0,00	-0,50	1,00	-1,00	-0,33	-0,67	1,00	0,67	0,33	-1,00	-1,00	1	-1	1	1	1	-1	-1	0,00	0	-1,00	1,00	0,50	-0,50	0,00	1	-1	-1	1	0,050	0,00	1,00	-0,50	-0,50	-0,50	0	-1,00	0,33	1	-1,00
147	1	-0,67	0,33	1,00	-0,33	.	0,67	0,50	0,50	-0,50	0,50	1,00	0,33	0,67	-0,33	-0,67	.	-0,50	-0,50	1	1	-1	1	-1	1	-1	0,50	0	0,50	1,00	.	.	.	1	-1	-1	1	0,980	-0,50	1,00	-0,50	0,00	1,00	0	-1,00	-0,33	-1	0,50
148	1	.	.	1,00	.	.	0,67	0,00	0,50	0,00	0,50	1,00	0,67	0,33	-0,33	.	.	-1,00	-0,50	1	1	1	1	1	-1	-1	-0,50	0	1,00	0,50	0,00	.	-0,50	1	-1	-1	1	0,100	-0,50	0,50	0,00	1,00	1,00	0,29	-0,50	-0,33	-1	-1,00
149	1	.	.	1,00	0,67	.	.	-0,50	0,00	-0,50	0,50	1,00	0,33	0,67	.	.	-0,33	-1,00	-1,00	1	-1	1	1	1	-1	-1	-0,50	1	0,00	1,00	0,50	.	.	-1	-1	-1	1	0,100	0,50	0,50	-0,50	0,50	0,00	0	-1,00	1	1	-1,00
150	1	0,67	.	1,00	.	.	0,67	0,50	-0,50	0,00	1,00	1,00	0,67	-0,33	0,33	.	.	-0,50	-1,00	1	-1	1	1	-1	-1	-1	-0,50	1	1,00	0,50	-0,50	0,00	-1,00	0	-1	-1	1	0,010	-0,50	1,00	-0,50	0,00	0,50	0,3	-0,50	1	-1	-1,00
151	1	0,33	.	1,00	.	.	0,67	0,00	-0,50	0,00	0,50	0,33	-1,00	0,67	-0,67	-0,33	1,00	-0,50	-0,50	-1	1	-1	1	1	-1	-1	-0,50	1	0,00	-0,50	-1,00	0,50	1,00	1	-1	-1	1	0,000	1,00	1,00	-1,00	-0,50	0,00	0	-1,00	-1	-1	1,00
152	1	.	.	1,00	.	.	0,33	0,00	-1,00	-1,00	1,00	1,00	0,33	.	.	.	.	-0,50	-1,00	1	-1	1	1	-1	-1	-1	-0,50	1	0,00	1,00	-1,00	-0,50	0,50	0	-1	-1	1	0,010	0,00	-1,00	0,00	-0,50	-1,00	0,38	0,00	1	1	1,00
153	1	0,33	.	1,00	.	.	0,67	0,50	0,00	0,00	1,00	1,00	0,33	0,67	-1,00	-0,33	-0,67	.	0,00	1	-1	-1	1	1	-1	-1	-0,50	1	0,00	1,00	0,50	-0,50	-1,00	1	-1	-1	1	.	0,50	1,00	-0,50	0,50	1,00	0	-1,00	-0,33	-1	1,00
154	1	1,00	.	0,67	0,33	.	-0,33	0,00	-1,00	0,00	1,00	0,67	0,33	1,00	-1,00	-0,67	-0,33	.	-1,00	1	1	-1	1	1	-1	-1	0,50	0	-1,00	1,00	0,50	-0,50	0,00	0	-1	-1	1	0,050	1,00	0,50	-1,00	0,50	1,00	0,7	1,00	1	1	-1,00
155	1	0,67	.	1,00	-0,33	.	-0,67	0,50	0,50	-0,50	1,00	0,33	0,67	1,00	-0,67	-0,33	-1,00	-0,50	-1,00	1	-1	1	1	-1	-1	-1	0,00	0	0,00	0,50	-1,00	-0,50	1,00	-1	-1	-1	1	0,080	0,50	1,00	-0,50	0,00	1,00	0,6	0,00	1	-1	1,00
156	1	0,33	.	1,00	.	.	0,67	1,00	0,00	-0,50	1,00	0,67	-0,33	1,00	-0,67	-1,00	0,33	-1,00	-0,50	1	-1	-1	1	-1	-1	-1	-0,50	-1	-0,50	1,00	0,50	-1,00	0,00	0	1	-1	-1	0,050	0,50	1,00	-0,50	0,00	0,50	0,75	0,50	1	-1	-1,00
157	1	.	0,33	1,00	.	0,67	-0,33	-0,50	-0,50	0,00	1,00	0,33	0,67	1,00	.	-0,33	.	-1,00	.	1	-1	1	1	1	-1	-1	0,00	0	.	1,00	0,50	.	0,00	1	-1	-1	1	0,010	0,50	0,00	-1,00	0,50	0,50	0	-1,00	-0,33	-1	-1,00
158	1	0,67	.	1,00	.	.	0,33	1,00	0,00	0,00	1,00	0,67	0,33	1,00	-1,00	-0,33	-0,67	-0,50	-0,50	1	1	1	1	1	-1	-1	0,00	0	0,50	1,00	0,00	.	.	1	-1	-1	1	0,050	1,00	0,50	-1,00	0,50	0,50	0	-1,00	-1	-1	1,00
159	1	0,67	.	1,00	.	.	0,33	0,50	-1,00	0,00	0,50	0,67	.	0,33	-0,33	.	1,00	-1,00	-1,00	1	1	-1	1	-1	-1	-1	0,50	0	1,00	.	0,50	0,00	.	1	-1	-1	1	0,500	1,00	1,00	-0,50	0,50	0,00	0	-1,00	-1	-1	1,00
160	1	0,33	.	1,00	.	-0,33	0,67	0,00	1,00	0,00	1,00	1,00	0,67	0,33	.	.	.	.	0,00	1	1	-1	1	-1	-1	-1	-0,50	0	1,00	0,50	0,00	-1,00	-0,50	-1	-1	-1	1	0,100	1,00	0,50	-0,50	1,00	0,00	0	-1,00	-1	-1	1,00
161	1	1,00	.	0,67	0,33	.	-0,33	-0,50	0,00	-0,50	0,00	1,00	-0,33	0,67	0,33	.	.	-0,50	0,00	1	-1	-1	1	-1	-1	1	0,00	0	-0,50	1,00	0,50	0,00	-1,00	1	-1	-1	1	0,500	0,50	1,00	-0,50	0,00	-0,50	0	-1,00	-1	1	1,00
162	1	1,00	.	0,67	.	.	0,33	0,50	0,50	-0,50	1,00	1,00	0,67	0,33	.	-0,67	-0,33	-0,50	-1,00	1	1	1	1	1	-1	-1	-0,50	1	.	1,00	0,50	.	0,00	0	-1	-1	1	0,400	1,00	1,00	0,00	0,00	1,00	0,22	0,00	1	1	-1,00
163	1	1,00	-0,33	0,67	.	-0,67	0,33	0,50	0,00	-1,00																																						